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## A MONOGRAPH OF THE BRITISH ROSES.

By J. G. BAKER, F.L.S. &c.

FOR a considerable time I have made the British Roses a subject of special attention. Till lately I lived in a country district exceedingly rich in forms, and gathered and distributed during each of several consecutive years many hundreds of specimens. In 1864 I contributed to a journal, circulating principally amongst the working naturalists of the north of England, a review, more particularly, of the North-of-England forms, and issued a set of specimens in illustration of the written notes. This paper Mr. Boswell Syme did me the honour of adopting as the basis of his account of the genus in the third edition of 'English Botany.' At the time, and since, I have been repeatedly urged by correspondents at home and abroad to undertake a more complete and systematic monograph of the British species, embracing a full enumeration and description of the forms which we possess, and a recapitulation of their synonymy in continental books, and their distribution beyond the limits of our own island. This it is my purpose now to attempt, and to lay the result before the Linnean Society, in whose Transactions, now more than half a century ago, was published the Monograph by Woods, which has ever since been the standard of reference on the subject.

I have had the opportunity of examining all the principal public collections in this country, including those of Linnæus, Smith, and Woods at the Linnean Society, of Buddle, Plukenet, and the general collection at the British Museum, of Turner, Hooker, Borrer, and a set from Lindley and Besser at Kew, and of Winch and Robertson at the Newcastle Museum—and, of private collections, have been entrusted for leisurely examination with those of Mr. Watson, Professor Babington, Dr. Moore, Mr. Boswell Syme, and Professor Oliver. For a liberal supply of specimens from the districts where they live I am indebted to Mr. T. R. A. Briggs, of Plymouth, Rev. A. Bloxam, of Twycross, Dr. St. Brody, of Gloucester, Mr. Webb, of Liverpool, Mr. Bromwich, of Myton, in Warwickshire, and Mr. Jas. Ward, of Richmond, in Yorkshire. With the three botanists upon the Continent who of late years have particularly devoted themselves to the genus, M. Alfred Déséglise in France, Dr. Rapin in Switzerland and Professor Crepin in Belgium, I have had the honour

of a correspondence of many years' duration, and, especially from the first of the three, whose enthusiasm in the cause of *Rosa* has been attested by an elaborate monograph of the French species, illustrated by a published fasciculus of specimens beautifully selected and preserved, I have received a liberal supply of authenticated Roses and a free communication of the notes suggested to them by the study of the British forms which I have sent them.

In quoting continental synonyms, over and above the original authority for a name, I have restricted myself almost entirely to the most recent works in which the Roses of the adjacent countries of the Continent are described, of which the following are the principal.

*Déséglise*, 'Essai monographique sur cent cinq espèces de Rosiers appartenant à la Flore de la France.' Angers: 1861. 'Revision de la Section *Tomentosa* du genre *Rosa*.' Angers: 1866.

*Reuter*, 'Catalogue des Plantes vasculaires qui croissent naturellement aux environs de Genève.' 2nd edit. Geneva: 1861.

*Grenier*, 'Flore de la Chaîne Jurassique,' part 1. Paris and Besançon: 1865.

*Dumortier*, 'Monographie des Roses de la Flore Belge.' Gand: 1867.

I have also quoted regularly the set of specimens, 135 in number, deposited by Woods at the Linnean Society in authentication of his paper, the published fasciculi of *Déséglise*, the Herbarium Normale of Fries, and my own.

As this paper may reach collectors isolated in the country, I will venture to add a counsel upon the character of specimens taken for drying. To illustrate a Rose so that a definite opinion can be formed upon it, it is necessary, in addition to a flowering branch, such as no one omits to gather, to have well-developed fruit; so much the better if taken both at the stage when it is fully grown but still green, and also after it has partially ripened, and to have also a portion of woody stem that will show clearly the well-developed prickles; and it is also better to take, in the same way as in *Rubus*, a portion of a shoot bearing leaves only, because it is only upon these barren branches that the leaves reach their full development.

In the diagnoses it will be seen that I have laid great stress upon the character of the prickles. Here, as in *Rubus*, I believe that we get some of our best contrasts of character by separating the forms in which the prickles are scattered and uniform (as in

*canina*, *arvensis*, and *villosa*) from those in which the prickles are more abundantly developed and run down into aciculi by gradual stages of transition (as in *Sabini*, *rubiginosa*, and *spinosissima*). In the well-developed prickle in *Rosa* we may trace three types of form:—the comparatively slender and nearly straight type, as in *mollissima* and *spinosissima*; the falcate type, which, besides being decidedly hooked, is much more robust downwards than in the last, and breaks off from the branch with a differently shaped scar, as in *canina* and *micrantha*; and, thirdly, the parrot's-beak type, which is deltoid, with a short slightly hooked point, as in *stylosa* and *arvensis*.

The nature of the fruit furnishes characters which are very useful for diagnostic purposes, only unfortunately they are to a large extent lost in dried specimens. In the common Dog Rose the sepals remain reflexed after the petals fall, and become disarticulated at the base before the hip becomes at all scarlet (this is what is meant by *deciduous* sepals); in *tomentosa*, *rubiginosa*, and *hibernica* the sepals ascend after the petals fall, and remain erect upon the top of the hip till it changes colour, but become disarticulated before it fully ripens (this is what is meant by *subpersistent* sepals); whilst in *mollissima*, *involuta*, and *spinosissima* the sepals ascend in the same way and remain till the fruit is fully ripe (this is what is meant by *persistent* sepals). And between the character of the sepals and the extent to which the disk which closes in the top of the fruit is developed, and hairiness and cohesion of the styles, there is a close correlation. The forms that have persistent sepals have the fruit-disk hardly at all, or not at all, developed, and the styles very hairy and not at all agglutinated. The forms with subpersistent sepals, on the contrary, have the disk always prominently developed, and the styles are consequently crowded closer together and are much less hairy; and the development of the disk culminates in *stylosa* and *arvensis*, in which, in combination with deciduous sepals, we have the styles quite glabrous and united together in a prominent column.

#### *Clavis specierum*\*.

Styles free, scarcely, if at all protruded beyond the top of the calyx-tube.

\* Rare aberrant forms both here and in the diagnosis sometimes not taken into account.

Group 1. **SPINOSISSIMÆ**. Low erect compact bushes, with crowded and very unequal prickles, the large ones slender and nearly or quite straight. Leaves naked or hairy, never more than slightly glandular beneath. Sepals persistent or subpersistent.

Fruit dark purple. Flowers always solitary. 1. *spinosissima*.

Fruit bright red. Flowers not essentially solitary.

Sepals truly persistent, always simple, thinly glandular on the back. Leaves quite naked, with simple teeth.

2. *rubella*.\*

Sepals truly persistent, more or less compound, densely glandular on the back. Leaves more or less, often very hairy, the teeth generally compound..... 3. *involuta*.

Sepals compound, naked on the back, not fully persistent.

Leaves naked or thinly pubescent beneath, simply toothed.

4. *hibernica*.

Group 2. **VILLOSAE**. Larger bushes, erect or lengthened out and arching. Prickles uniform, scattered, slender, scarcely at all hooked. Sepals persistent or subpersistent, always densely glandular on the back. Leaves generally very hairy and inconspicuously or not at all glandular beneath.

Sepals truly persistent. Fruit ripening early, with no disk.

Bush arching; sepals copiously compound 5. *pomifera*.

Bush erect; sepals sparingly compound ... 6. *mollissima*.

Sepals not truly persistent; fruit later in ripening, with a distinct disk like that of *canina* ..... 7. *tomentosa*.

Group 3. **RUBIGINOSÆ**. Smaller bushes than in the last and next group, erect or arching; the prickles scattered, stouter downwards, and decidedly hooked, sometimes with a few aciculi mixed amongst them. Leaves thinly hairy or not at all hairy, but always densely glandular over the under surface. Sepals subpersistent.

Very odorous; bush erect and compact ..... 8. *rubiginosa*.

Arching bushes without decided Sweet-briar fragrance.

Prickles uniform; flowers and leaves small; styles naked; peduncle generally aciculate ..... 9. *micrantha*.

\* This and *pomifera*, though introduced in the Clavis, have, as will be seen, no fair claim to be regarded as British plants.

Prickles often with a few aciculi intermixed; flowers and leaves larger; styles hairy; peduncle rarely aciculate.

10. *pulverulenta*.

Group 4. CANINÆ. Larger bushes, always lengthened out and arching. Prickles uniform, scattered, decidedly hooked, and thickened downwards. Sepals deciduous or subsistent, usually naked on the back. Peduncle generally naked, and leaves naked, or but thinly hairy, and not at all glandular over the surface.

The only species ..... 11. *canina*.

SYSTYLÆ. Styles united into a slender column which is protruded beyond the disk. Arching or trailing bushes. Prickles uniform, stout, hooked. Sepals deciduous. Fruit late in ripening.

A high arching bush like *canina*, with copiously compound sepals; the style-column shorter than the stamens.

12. *stylosa*.

A low trailing bush with short slightly compound sepals and a style-column equalling the stamens ..... 13. *arvensis*.

Group 1. SPINOSISSIMÆ.

1. R. SPINOSISSIMA, *Linn.* Frutex erectus, ramis brevibus compactis, aculeis confertis subulatis subrectis ad aciculos copiosos sensim trans-euntibus, foliolis parvis obtusis firmis simpliciter serratis utrinque omnino glabris, floribus semper solitariis, sepalis ascendentibus dorso nudis simplicibus persistentibus, fructibus erectis atro-purpureis nudis depresso-globosis, disco nullo.

R. SPINOSISSIMA, *Linn. Sp. Plant.* p. 705; *Woods, Linn. Trans.* xii. p. 178, *Herb.* 7-15; *Déséglise, Mon.* p. 46, *Exsic.* 6; *Gren. Fl. Jur.* p. 226, non *Reich. Fl. Excurs.* ii. p. 612.

R. PIMPINELLIFOLIA, *Linn. Sp. Plant.* p. 703 and *Herb.* !; *Reich. Fl. Excurs.* ii. p. 612; *Reut. Cat.* p. 63; *Fries, Herb. Norm.* x. no. 52; *Dumort. α, β, γ, p.* 41.

Stems usually quite erect, 1 to 3 feet high, with short, stiff, compact branches; the prickles very dense, with every stage of transition between minute aciculi and the largest, the latter 3 to 4 or even 5 lines long, with a long needle-like point, and the lower part but little thickened, spreading horizontally or slightly deflexed; the scars 3 lines deep. Branches often bright reddish brown. Stipules quite naked on the back, faintly gland-ciliated. Full-grown leaves  $1\frac{1}{2}$  to 2 inches long, with 7 to 9 oblong leaflets,

the terminal one 6 to 8 lines long by three-quarters as broad, blunt, the base generally rounded; the serratures quite simple, moderately sharp and open; texture firm, with transparent venation; both sides quite glabrous and glandless. Petioles without hairs, but often with a few glands. Peduncles invariably solitary and bractless, generally 6 to 9 lines long, naked, more or less densely beset with setæ and aciculi. Calyx-tube globose, naked, or very rarely slightly aciculate. Sepals invariably quite simple,  $\frac{3}{8}$  to  $\frac{1}{2}$  inch long, naked on the back; the point slightly leafy and gland-ciliated. Corolla 12 to 18 lines across when expanded, white, with a yellow throat, rarely variegated with red. Styles densely villose. Disk none. Fruit depresso-globose, dark purple, with a dark purple juice; 5 to 6 lines broad, quite naked, crowned with the erect persistent sepals; changing colour in September in the low country in England.

In Britain, extending from the south of England to Caithness, ascending in the north of England to 500 yards above the sea-level, and in the Scotch Highlands to nearly 600 yards, and in Ireland also reaching from the north to the south, with a preference for the sands of the seashore, and, inland, for limestone. Though it is the only Rose known in Iceland, yet in Scandinavia it is much less boreal in its range than *mollissima* or *canina*, being restricted, like *tomentosa*, to the south-west. It is universally distributed through Central and Southern Europe, reaching the Barbary States, Cashmere, and, through Siberia, to the north of China (Prof. Bunge!). Though it varies much according to its place of growth in luxuriance and the density of its prickles, we do not appear to have in Britain any striking variety. With us the form with a naked peduncle is much the most common, that with an aciculate peduncle quite rare. Lindley's var. *platycarpa* (Monog. p. 51) is a small Irish form with an aciculate peduncle, his var. *turbinata* (*loc. cit.*) another small form with turbinate fruit, and his var. *reversa* (*R. reversa*, Lindl. Bot. Reg. t. 431, non Waldest. et Kit.) another small form with slender deflexed prickles and ovate fruit. The form with the flowers variegated with red, *R. Ciphiana*, Sibbald, Scot. ii. p. 46, t. 2, is the parent of many of the garden Scotch Roses. A plant with red fruit was gathered by Mr. Borrer in Sussex, and another with ovate-urceolate fruit by Mr. Jackson in Scotland and Mr. Robertson in Durham. Var. *pilosa*, Lindl., evidently does not belong here, but to *R. involuta*. *R. sanguisorbifolia*, Donn, Hort. Cant. edit. 8, p. 169, is a mere form of this,

with 9 to 11 leaflets. The principal European varieties are:—*R. Ripartii*, Déség. Mon. p. 47, Exsic. 7, Billot, Exsic. 3378 (*R. spinosissima*, Reich. Fl. Excurs. ii. p. 612), with doubly-toothed leaves, more decidedly glandular petioles and stipules, and peduncles usually but not always aciculate; *R. consimilis*, Déség. Mon. p. 50, Exsic. 9, with glabrous styles, unarmed and glandular petioles, and simply toothed leaflets slightly hairy on the midrib beneath; *R. spreata*, Déség. Mon. p. 50, Exsic. 8, with less numerous prickles, thinly hairy styles, and unarmed petioles; and *R. myriacantha*, DC. Fl. Fr. iv. p. 439, Lindl. Mon. p. 55, t. 10, a stunted, compact, erect plant with very long and very dense prickles, doubly toothed leaflets densely glandular all over beneath, deep-red flowers, peduncle and usually the calyx-tube densely aciculate and setose, and simple sepals densely glandular on the back. Other varieties are the Siberian *R. altaica*, Willd. Hort. Ber. p. 543 (*R. grandiflora*, Lindl. Mon. p. 53), and the Himalayan *R. unguicularis*, Bert. Misc. No. 22, tab. 3, p. 15.

2. *R. RUBELLA*, *Smith*. Frutex erectus, ramis brevibus compactis, aculeis confertis subulatis gracilibus ad aciculos copiosos sensim trans-euntibus, foliolis parvis obtusis firmis simpliciter vel paullulum duplicato-serratis utrinque omnino glabris, floribus plerisque solitariis, sepalis dorso tenuiter glandulosis simplicibus persistentibus, fructibus rubris ovato-rotundatis vel ovato-urceolatis subnudis plerisque cernuis, disco nullo.

*R. RUBELLA*, *Smith*, *Eng. Bot.* t. 2521, *Eng. Flora*, ii. p. 374; *Woods*, *Linn. Trans.* xii. p. 177, *Herb.* 2-4; *Godet*, *Flore du Jura*, p. 205; *Grenier*, *Fl. Jura*, p. 227.

*R. GENTILIS*, *Stern. Bot. Zeit.* 1826, *Beibl.* 79; *Koch*, *Syn.* 2nd edit. p. 247.

*R. PIMPINELLIFOLIO-ALPINA*, *Rapin*, *Reut. Cat. Gen.* p. 64.

A bush with just the general habit of *spinosissima*, but the prickles more slender and fewer in proportion to the small setaceous aciculi, the branches sometimes denuded. Stipules rather broader, with lanceolate gland-ciliated auricles. Full-grown leaves  $1\frac{1}{2}$  to 2 inches long, with 7-9 leaflets, which are just like those of *spinosissima* in texture, but more oblong and more sharply toothed; the terminal leaflets 8-9 lines long by three-quarters as broad; the serrations simple or slightly compound; both sides quite free from pubescence, but the petiole glanduloso-setose, and the glands extending more or less to the midrib beneath. Flowers usually solitary, but occasionally in twos; the peduncle 6-12 lines

long, always glanduloso-setose and aciculate; the calyx-tube ovato-urceolate, naked or slightly glanduloso-setose; the sepals quite simple, 5-8 lines long, slightly leafy at the point, thinly glandular on the back. Corolla cream-coloured, or often variegated with red, 12-18 lines across when expanded; the styles densely villose. Fruit bright red, changing colour in England early in September, usually but not invariably drooping, roundish or short ovato-urceolate, 6-8 lines long; the sepals fully persistent. Disk none.

This is a plant well-known in botanic gardens, and evidently the same as the Jurassic plant which I have from Dr. Rapin, and as the Istrian plant with which Koch identified it. It is very like *spinosissima* in habit and prickles; but the fruit is different, the peduncles are always aciculate, the sepals are glandular on the back, and the flowers not always solitary. *R. stricta* of Muhlenberg (Lindl. Mon. p. 42, t. 9—a plant attributed to Pennsylvania, no doubt in error, as it has never been gathered in recent times), and *R. Candolleana*, Thory, in Ros. Red. 4to, vol. i. t. 32, do not appear to differ from it by any tangible characters; and the Himalayan *R. Webbiana*, Wall. Royle's Illust. i. p. 42, is very nearly, if not absolutely, identical with it. There are specimens in several herbaria labelled as having been collected by Winch on the sands of the seashore south of Shields Law on the Durham side of the Tyne; but Winch certainly did not know it clearly, for a plant collected by Mr. Hogg near Hartlepool, which he called *rubella*, is only ordinary *spinosissima*, and it is probable that some confusion has arisen. I have not seen specimens complete enough to be able to form a clear opinion as to what are the relations to this of *R. reversa*, Waldst. and Kit. Pl. Rar. Hung. p. 264; but the difference, if any, must be very slight. Dr. Thomson's extensive suite of specimens from the Himalayas appear to run this by gradual stages into *spinosissima*. My specimens from the Alps are too few to show fairly what may be the case there; and, on the other hand, as will be seen, it comes exceedingly near to some of the varieties of the next.

3. *R. INVOLUTA*, Smith. Frutex erectus ramis plerisque brevibus, aculeis subulatis subrectis ad aciculos copiosos sensim transeuntibus, foliolis mediocribus plerisque duplicato-serratis plus minus pubescentibus infra sæpe leviter glandulosis, floribus 1 vel paucis, pedunculis dense aciculatis et glanduloso-setosis, sepalis ascendentibus persistentibus dorso dense glandulosis, majoribus pinnatis vel raro subsimplicibus, fructibus serotinis erectis subrotundatis, disco nullo.



Though *involuta* is the name which has the right of priority, yet the variety afterwards called *Sabini* is much the most common, and I therefore take it first.

Var. SABINI (*Woods*).

R. SABINI, *Woods*, *Linn. Trans.* xii. p. 188 (1816), *Herb.* 22–24; *Smith, Eng. Flora*, ii. p. 380; *Borrer, E. B. S. t.* 2594; *Baker, Review*, p. 5, *Essic.* 1, 2; *Dumort. Belg.* p. 42.

R. NIVALIS, *Donn, Hort. Cant.* edit. 8, p. 170.

R. CORONATA, *Crepin, Notes*, ii. p. 25; *Wirtg. Essic.* 1858, No. 270, and 1860, no. 270 bis; *Reut. Gen.* p. 67; *Gren. Fl. Jura*, p. 231.

R. SABAUDA  $\beta$ . CORONATA, *Rapin, Vaud Guide*, 2nd edit. p. 192.

In exposed places an erect shrub 2–4 feet high, with short compact branches with dense prickles passing down by gradual stages into aciculi; in shade or hedges sometimes drawn out and arching. Full-grown prickles 3–4 lines long, scarcely at all curved or thickened in the lower part; the scar  $\frac{1}{4}$  inch deep. Stipules hairy on the back, and sometimes slightly glandular, densely gland-ciliated. Well-developed leaves of the barren shoots  $2\frac{1}{2}$ –3 inches long; the terminal leaflet ovate-oblong, 9–12 lines long by three-quarters as broad; the base broadly rounded, or even cordate; the teeth open and copiously compound; the upper surface thinly grey-pubescent, the lower more so, and often slightly glandular. Petioles densely hairy, glanduloso-setose, and aciculate. Flowers 1–3; the peduncle 6–12 lines long, densely aciculate and setose; the calyx-tube subglobose, more or less densely aciculate; the sepals  $\frac{5}{8}$ – $\frac{3}{4}$  inch long, densely glandular on the back, lengthened out into a decidedly leafy point, and copiously gland-ciliated, the main ones with one or two small narrow pinnæ on each side. Corolla varying from pure white to deep pink,  $1\frac{1}{2}$  or even 2 inches across when expanded. Styles densely villose. Sepals ascending after the petals fall, quite persistent upon the erect roundish red fruit, which measures 7–8 lines each way, and changes colour in the north of England late in September or early in October, and is only produced very sparingly. Disk none.

Sparsely distributed through Britain, from the Isle of Wight (*Herb. Watson*!) and Sussex (*Borrer*!) northward to Caithness (*R. Dick*!), ascending to 300 yards in Yorkshire, and probably to a considerable height in Forfarshire, as Don localizes a specimen

"on a rock on one of the mountains at the head of Clora, near the limits of perpetual snow" (hence his name *nivalis*). According to a note by Turner in the Kew herbarium, Dr. Walker's Hebridean plant called *involuta* is this variety. It appears to reach its maximum of frequency in the north of England. Several stations are known in the north of Ireland. *R. gracilis*, Woods, Linn. Trans. xii. p. 186, Herb. 21, Smith, Engl. Fl. ii. p. 379, is not more than a robust condition of this variety with the prickles, like the rest of the plant, abnormally stout and a little curved. *R. villosa*, Engl. Bot. t. 583, is drawn from this, with the exception of the fruit, which is that of *R. pomifera*; and it is the latter that Smith had in view in his observations.

Var. DONIANA (Woods).

R. DONIANA, Woods, Linn. Trans. xii. p. 185, Herb. 18-20; Smith, Engl. Flora, ii. p. 378; Borrer, E. B. S. t. 2601.

R. SABINI  $\beta$ . DONIANA, Lindl. Mon. p. 59; Borrer, Brit. Fl. edit. 3, p. 232.

A form of dry exposed situations with leaflets more densely hairy than in the last and consequently greyer green and softer; the calyx-tube and fruit densely prickly; the flowers solitary and sepals hardly, if at all, pinnate.

Var. GRACILESCENS, Baker.

A robust Irish form, gathered in co. Antrim by Dr. Moore, with leaves 3-3½ inches long, ovate leaflets, thinly hairy on both sides, not at all glandular beneath, with copiously compound toothing, the terminal one 15-16 lines long by nearly an inch broad; petioles with few or no aciculi and glandular setæ; flowers 3-6 in a cluster, acuminate peduncles, and naked elliptical calyx-tube.

Var. ROBERTSONI, Baker, Review, p. 8, Exsic. 3.

R. INVOLUTA, Winch, Geog. Distrib. p. 41, non Smith.

R. SABINI  $\beta$ , Smith, Eng. Flora, ii. p. 380.

Intermediate between *Sabini* and the original *involuta*. Leaflets with the teeth sharper and less compound than in *Sabini*, glabrous (when mature) on the upper surface, hairy principally on the ribs and inconspicuously glandular beneath; calyx-tube sometimes, but not always, naked; sepals as compound as in *Sabini*.

I have gathered this lately in the original station near Newcastle and also in North Yorkshire, and received it from Derry from Dr. Moore.

**Var. SMITHII, Baker.**

R. INVOLUTA, *Smith, Engl. Bot.* t. 2068 (1809), and fruit, t. 2601; *Engl. Flora*, ii. p. 377; *Woods, Linn. Trans.* xii. p. 183, *Herb.* 17; *Lindl. Mon.* p. 56; *Borrer, Brit. Flora*, p. 232.

R. SABAUDA, *Rapin, Bull. Soc. Hall.* p. 175; *Vaud Guide*, edit. 2. p. 191; *Reut. Cat.* p. 64; *Gren. Fl. Jura*, p. 229.

A stunted erect bush, with leaflets naked when mature on the upper surface, hairy principally on the midrib beneath, and scarcely at all glandular, the serrations closer and sharper than in all the preceding forms and but slightly compound; the flowers solitary, the peduncle and calyx-tube densely aciculate, the sepals simple.

The only British specimens I have seen well representing this variety were gathered in Arran by George Don and by Mr. James Ward near Richmond in Yorkshire.

**Var. LÆVIGATA, Baker.**

Peduncle and calyx-tube quite naked, the latter depressoglobose; the leaves like those of *Sabini* in clothing and tooting, the petioles villose and glanduloso-setose, but scarcely at all aciculate; the sepals all quite simple and not glandular on the back.

Gathered by the late Mr. Hailstone near Broughton Spa, West Yorkshire, and a similar plant by Dr. Moore in Antrim and Derry.

**Var. MOOREI, Baker.**

Prickles stouter than in any of the other forms, the largest 5–6 lines long, slightly curved; the scar  $\frac{3}{8}$  inch deep. Leaflets nearly naked above, thinly hairy and densely glandular beneath, the serration like that of var. *Smithii*; the petiole scarcely at all hairy, but densely glanduloso-setose, and furnished with numerous unequal aciculi, the larger ones decidedly falcate. Flowers one or more; both peduncle and tube densely aciculate and glanduloso-setose. Largest sepals 8–9 lines long, slightly pinnate.

Near the sea, Tamlaghbard, Derry, *Dr. Moore*! Recedes from the type (by its prickles and leaves glandular beneath) towards some of the *Rubiginosæ*, but yet evidently belongs here.

**Var. OCCIDENTALIS, Baker.**

R. SPINOSISSIMA, var. PILOSA, *Lindl. Mon.* p. 51; *Borrer, Brit. Flora*, p. 229.

Very near *Wilseni*, but the leaves smaller, slightly hairy beneath, and the petiole glanduloso-setose and aciculate, the serra-

tion nearly, but not quite, simple; the peduncle densely aciculate and glanduloso-setose; the calyx-tube globose, naked, the main sepals not more than half an inch long, with one or two setaceous pinnæ on each side.

Described by Lindley from an Irish specimen still in the Hookerian herbarium, the exact station not known.

Var. *WILSONI* (*Borrer*).

*R. WILSONI*, *Borrer*, *Brit. Flora*, edit. 3, p. 231; *E. B. S.* 2723.

An erect bush 2 or 3 feet high, with deep vinous purple branches and leaves, and stipules often suffused with the same colour. Prickles as in *Sabini*. Leaflets often cordate, the terminal ones 12–15 lines long by 8–12 lines broad, naked (when mature) above, thinly hairy on the ribs below, but scarcely at all glandulose; the serrations moderately open, quite simple; the aciculi of the petiole few and slender. Flowers 1–3, full pink; the peduncles moderately aciculate and setose; the tube naked, or very nearly so; the sepals either all simple, or the largest with one or two minute setaceous pinnæ; the fruit with more of a tendency than in *Sabini* to an ovato-urceolate shape, when well developed 8–9 lines long by half an inch broad.

Banks of the Menai, near Bangor (*Wilson*!, *Webb*!, *Bloxam*!), and just the same plant gathered by Dr. Moore at Umbra rocks, co. Derry.

It will be seen by the descriptions that the extreme forms placed here run into one another by very gradual stages. *Doniana* is like reduced *mollissima*, with crowded unequal prickles, whilst *Wilsoni* touches close upon *rubella*, and *Moorei* approaches some of the *Rubiginosæ*. It is noteworthy that a plant so widely spread in Britain, and with so many varieties, should be so rare upon the Continent. It is known only in two widely separated tracts—the provinces of Namur and Luxemburg, in Belgium, and upon Mount Saleve, near Geneva. There is a variety in Belgium (var. *subnuda*, Crepin, Notes, ii. p. 25; Dumort. Ros. p. 42) not yet found in Britain, with smooth peduncles and calyx-tube, copiously compound serratures, leaves naked on the upper surface, densely glandular beneath, but only a little hairy on the veins. The Sicilian *R. Heckeliana*, Tratt. Mem. ii. p. 85, Guss. Syn. i. p. 562, is an almost precise counterpart of *Doniana* in general habit; but the prickles are uniform and curved, and the major sepals copiously compound.

4. *R. HIBERNICA*, *Smith*. Frutex erectus, ramis plerisque brevibus, aculeis modice robustis leviter falcatis ad aciculos subulatos sensim transeuntibus, foliis mediocribus simpliciter serratis supra nudis infra nudis vel leviter pubescentibus, omnino eglandulosis, floribus 1 vel paucis, pedunculis plerisque nudis, sepalis ascendentibus subpersistentibus dorso nudis majoribus plene pinnatis, fructibus serotinis erectis rotundatis nudis, discis mediocribus instructis.

*R. HIBERNICA*, *Smith*, *Eng. Bot.* t. 2196, *Eng. Flora*, iii. p. 393; *Woods*, *Linn. Trans.* xii. p. 222, *Herb.* 107; *Lindl. Mon.* p. 82; *Baker, Review*, p. 9.

In exposed places an erect shrub 3 or 4 feet high, but in hedges drawn out and slightly arching. Prickles less crowded than in *involuta*, but running gradually down into setaceous aciculi in the same way. Main prickles stouter than in the last, decidedly curved, the scar 5-6 lines deep. Leaves of the barren shoot 3-4 inches long, the terminal leaflet broad-oblong or ovate-oblong, 9-12 lines long by three-fourths as broad, the upper surface a slightly glaucous green, naked or inconspicuously hairy on the midrib, the lower surface thinly hairy on the veins, not at all glandular; the serration moderately sharp and open, the teeth simple or casually gashed, the petiole pubescent, with three or four slender hooked aciculi and an occasional gland. Stipules scarcely at all hairy on the back, with deltoid gland-ciliated auricles. Flowers generally 1 to 3, but sometimes up to a dozen, the peduncle 4-6 lines long, quite naked, the globose or broad-ovate calyx-tube the same, the segments 8-9 lines long, quite naked on the back, the main ones copiously leaf-pointed and pinnate. Corolla pale-pink, 15-18 lines across when expanded. Styles densely hairy. Sepals ascending after the petals fall, but not fully persistent. Fruit roundish, about half an inch long and thick, crowned with a decided disk, not ripening till October. The form with hairy leaves occurs in Derry and Down (*Templeton*!, *Dickie*!, *Moore*!, &c.), and in England, in Cumberland (*Borrer*!) and Cheshire (*Webb*!). A form (var. *glabra*, *Baker, Review*, p. 11, *Exsic.* p. 4) with sharper teeth and leaves quite naked has been gathered in Sutherlandshire (Healam Ferry, near Loch Eriboll) and in Durham (near Witton-le-Wear) by Prof. Oliver, in Cumberland by Mr. Borrer, in North Yorkshire by Mr. Mudd and myself, in Cheshire by Mr. Webb and others, and in Surrey by Mr. R. Castle; and Dr. Moore has found another glabrous form with larger nearly round leaves and

blunter teeth than in the type on rocks at 1000 feet above the sea-level on Ben Evanagh, co. Derry.

Var. *CORDIFOLIA*, *Baker, Review*, p. 20.

Prickles more slender and denser than in the type, the large ones scarcely curved. Terminal leaflet 15–18 lines long by 1 inch broad, the base cordate. Leaves nearly naked below, the teeth more open and blunter than in the type, the peduncle aciculate and glanduloso-setose up to the base of the calyx-tube.

Northumberland ; in Coquetdale, between Flotterton and Rothbury, *Prof. Oliver*!

No one who has once seen this growing is likely to confound it with any other species. The fruit is different from that of *involuta*; but to all the other distinguishing characters taken singly, some of the forms furnish an exception.

In general habit, when in flower, the ordinary glabrous English form has just the same sort of resemblance to typical *canina* that *Doniana* has to *mollissima*. Though so widely distributed in Britain, *hibernica* is quite unknown upon the Continent. The nearest plant to it is *R. Schultzii*, Ripart in Schultz's Archives, p. 254; Déség. Mon. p. 65; but this has less crowded and less unequal prickles, and ripens its fruit very early.

## Group 2. *VILLOSÆ*.

5. *R. POMIFERA*, *Herm.* Frutex maximus, ramis arcuatis, aculeis sparsis æqualibus rectis gracilibus, foliolis copiose duplicato-serratis subduplo longioribus quam latis utrinque tenuiter griseo-pubescentibus, infra inconspicue grandulosus, floribus 1 vel paucis, pedunculis brevibus dense aciculatis, sepalis ascendentibus dorso dense glandulosus plene persistentibus majoribus copiose pinnatis, fructibus rotundatis præcocibus, disco nullo.

*R. POMIFERA*, *Herm. Diss.* p. 17; *Koch, Syn. edit.* 2, p. 253; *Reut. Cat.* p. 67; *Dumort. Ros.* p. 48; *Déség. Mon.* p. 129, *Toment.* p. 44; *Fries, Herb. Norm.* ix. no. 47.

*R. VILLOSA*, *Linn. Sp. Plant.* p. 704 (ex majore parte); *Smith, Eng. Fl.* ii. p. 538; *Woods, Herb.* 37; *Lindl. Mon.* p. 74 (excl. syn. *R. gracilis*).

*R. VILLOSA a*, *Huds. Fl. Angl. edit.* 2, p. 219; *Seringe in DC. Prodr.* ii. p. 618.

*R. SYLVESTRIS POMIFERA MAJOR NOSTRAS*, *Ray, edit.* 1, p. 221; *Buddle, Herb.*!

R. CILIATO-PETALA, *Besser, Volh. p. 66; Reich. Fl. Excurs. ii. p. 616, Essic. 2567!* non Koch.

R. RESINOSA, *Sternb. in Reich. Fl. Excurs. ii. p. 616, Essic. 1271!*, non *Déséglise*.

A robust arching bush 4 to 6 feet high, with a trunk sometimes as thick as a man's arm, with dull purplish glaucous branches and scattered, uniform, slender prickles 4 to 6 lines long. Well-developed leaves 5 to 7 inches long, the terminal leaflet oblong or with a slight ovate tendency,  $1\frac{1}{2}$ – $2\frac{1}{2}$  inches long, generally only about half as broad, grey-green, but not softly pubescent on both sides as in *mollissima*, the underside often slightly glandular, the teeth open and copiously compound. Flowers 1 to 3, the peduncle generally not more than  $\frac{1}{2}$  an inch long, densely aciculate and setose, the calyx-tube round, glaucous, usually densely prickly, the sepals converging, fully persistent, densely glandular on the back, 9–12 lines long, the main ones copiously pinnate, the fruit ripe in August, bright red, globose or broadly turbinate, often, but not always, pendent, densely covered with strong prickles.

A stronger-growing plant than *mollissima*, with arching branches, larger and more openly toothed, narrower leaves, not so softly pubescent, and larger flowers and fruit, and copiously compound sepals. It is an old favourite in gardens, but seems to possess no fair claim to be considered British. Ray clearly had this in view when he wrote "*Fructus Pyri parvi forma et magnitudine spinulis obsiti;*" and he localizes it "*in montosis septentrionalibus Eboracensis et Westmorlandici agri copiose;*" but no doubt he did not recognize *mollissima* and *tomentosa* as distinct from it. The English specimens gathered of late years, which we have seen, are from Staffordshire, Cotes Heath, *Rev. R. C. Douglas*; and Gloucestershire, Coppice-wood, near Painswick, *Dr. S. Brody*! It is a native of Scandinavia ("*vere alpina*"), Belgium, North Germany, the Alps, and Jura, reaching the Pyrenees, Apennines, and Tyrol, and, according to Nyman, Castille, Tauria, and Mount Athos. The corolla is often beautifully gland-ciliated, and in cultivated specimens we have seen it 3 in. across.

6. R. MOLLISSIMA, *Willd.* Frutex erectus, ramis brevibus erecto-patentibus, aculeis sparsis æqualibus rectis gracilibus, foliolis copiose duplicato-serratis, utrinque molliter griseo-pubescentibus, infra interdum inconspicue glandulosis, floribus 1 vel paucis, pedunculis bre-

vibus dense aciculatis, sepalis ascendentibus dorso dense glandulosis, plene persistentibus, majoribus paullulum pinnatis, fructibus rotundatis præcocibus aciculatis vel nudis, disco nullo.

R. MOLLISSIMA, *Willd. Prodr. Fl. Berol.* no. 1237 (1787); *Gmel. Fl. Bad.* ii. p. 409; *Borckh. Forst.* ii. p. 1314; *Fries, Novit.* ii. p. 151, *Herb. Norm.* vii. 42; *Gren. Jura*, p. 231; *Reuter*, edit. 2, p. 66; *Déség. Mon.* p. 125, *Toment.* p. 36; *Dumort. Mon.* p. 49; *Baker, Review*, p. 11, *Exsic.* 5, 6.

R. VILLOSA, *Linn. Sp. Plant.* p. 704, ex parte, *Fl. Suec.* 1293, *Herb. ! Woods, Linn. Trans.* xii. p. 189, *Herb.* 25, 29; *Borrer, Brit. Fl.* 3rd edit. p. 233.

R. MOLLIS, *Smith, Eng. Bot.* t. 2459 (1812), *Eng. Flora*, ii. p. 281.

R. HETEROPHYLLA, *Woods, Linn. Trans.* xii. p. 195, *Herb.* pp. 34, 35.

R. CILIATO-PETALA, *Koch, Syn.* edit. 2, p. 253, non *Besser*.

R. GRENIERII, *Déség. Mon.* p. 128, *Toment.* p. 43, *Exsic.* 38 et bis; *Billot, Exsic.* 3602 et bis.

R. RECONDITA, *Puget, Déség. Toment.* p. 46.

Bush erect, 3 or 4 feet high, never arching, with short ascending branches, bright reddish purple with a glaucous tinge in exposure. Prickles scattered, uniform, those of the main stems 3-5 lines long, scarcely at all curved, very little thickened downwards, the scar of the largest not more than  $\frac{1}{4}$  inch deep. Fully developed leaves 4-5 inches long, with 7 leaflets, the terminal one ovate-oblong, 15-21 lines long by about three-fourths as broad, the base broadly rounded, or slightly cordate, the serratures open, subdeltoid and copiously compound, the colour generally a paler, greyer green than in any other species, the upper surface always more or less pubescent, the lower more so, and often with a few inconspicuous glands, the petiole densely downy and finely glandular, with a few nearly straight slender aciculi. Stipules copiously gland-ciliated, downy and slightly glandular on both surfaces. Flowers usually 1-3, the peduncles unusually short (3-6 lines), densely aciculated and glanduloso-setose. Calyx-tube round, glaucous, varying from densely aciculate to quite naked. Corolla crimson in bud, deep rose when expanded, rarely white, sometimes gland-ciliated, 15-18 lines across when fully open. Sepals 6-9 lines long, the point leafy, the back densely glandular, only the main ones slightly pinnate, ascending after the petals fall, and quite persistent upon the pulpy globular bright red fruit, which is  $\frac{1}{2}$ - $\frac{5}{8}$  inch broad and



deep, and ripens before that of any other species, changing colour in the north of England early in August, or even sometimes late in July, and sometimes, but not always, cernuous. Styles densely villose. Disk none.

From the Humber northward through England and through Scotland this species appears to be universally distributed, coming next in order of frequency to *canina* and *tomentosa*, to which three species at least 90 per cent. of the Roses of the northern half of our island must belong. *Tomentosa* and *mollissima* often resemble one another so closely that it is not safe to pronounce upon ordinary herbarium specimens; but the fruit is very different both in character and time of ripening, and the sepals generally furnish a character, and, when growing, the habit of the bushes is different; and although both have forms with entirely naked peduncles, and often with naked calyx-tubes, this never runs down like the other into forms with stouter curved prickles, or with the leaves nearly or quite naked on the upper surface. Both the British and the Continental distribution of the two appear to be materially different. I have seen this from northward as far as Orkney (*Boswell Syme*!) and Caithness (*Dick*!), but cannot vouch for it from further south than Derbyshire (*Purchas*!), Caernarvon (*Wilson*!, *Bloxam*!), and Merioneth (*Borrer*!, *Lees*!), and now believe that the Isle-of-Wight plant I formerly placed here is *tomentosa*, var. *subglobosa*. In the north of England it ascends to 450 yards above the sea-level. In Ireland I have seen it only from Antrim and Derry; one of Dr. Moore's specimens had a leaf  $6\frac{1}{2}$  inches long, with a terminal leaflet  $2\frac{1}{2}$  inches long by 2 inches broad. Our plant thoroughly agrees with the Scandinavian one of Fries, which, he says\*, is distributed through the length and breadth of Scandinavia, whilst *tomentosa* is restricted to Denmark and Gothland. It is, perhaps, open to doubt whether Willdenow understood the plant clearly; and it certainly has not been individualized definitely by Koch, Reichenbach, or Grenier and Godron; but Roth understood it clearly in

\* "Specierum distributio hujus generis valde insignis et in diversis terris varia: in convallibus alpinis genus centrum suum habet, quamvis sub arcto Lapponiam modo due species intrans, *R. cinnamomea* et *mollissima*. Hæc due species usque ad Scaniam ubique vulgares, maximam in Scandinavia habent extensionem, quamvis in Germania modo indicentur in convallibus alpinis australibus. E contrario in Scandinavia raræ, in oris occidentalibus potissimum obviam veniunt *R. pimpinellifolia* et *tomentosa*, Sm."—FRIES, *Summa*, p. 171.

1827, and it is evidently widely diffused through the north of Germany. In the 'Jurassic Flora,' Grenier describes it well, and restricts it to his "région des sapins." I have seen it from numerous places in Savoy, Dauphiné, and Switzerland, but not from any lowland French stations; and it reaches Carinthia and the Tyrol. Our average English form seems to me just Déséglise's *Grenierii*, and his *mollissima* to be a softer, greyer form of our plant, almost destitute of glands. I believe the English plant (gathered by Hailstone in Clydesdale) which he calls *recondita* is only, like the *heterophylla* of Woods, a luxuriant condition of the species. The following are the most striking English varieties:—

Var. CÆRULEA, Woods.

R. VILLOSA, var. CÆRULEA, Woods, Linn. Trans. xii. p. 189, Herb. 26-28.

R. MOLLISSIMA, var. CÆRULEA, Baker, Exsic. 7; Déség. Toment. p. 38.

Leaves softer and greyer than usual, with very few glands or aciculi on the petiole; the points of the sepals often very leafy; the calyx-tube and fruit broader than deep and perfectly smooth, the fruit pendent; the peduncle with fewer and weaker glandular setæ and aciculi than usual, and in extreme cases quite naked.

A common Northumbrian form, and I have seen it also from Argyleshire (*Hailstone*), Durham (*Robertson*), Cumberland (*Borrer*), and West Yorkshire (*Woods*).

Var. PSEUDO-RUBIGINOSA (*Lejeune*).

R. PSEUDO-RUBIGINOSA, *Lejeune*, Fl. Spa, i. p. 229.

R. SPINULIFOLIA, var. FOXIANA, *Thory*, Ros. Redout. p. 5.

R. VILLOSA, var. SUBERECTA, Woods, Linn. Trans. loc. cit., Herb. 30.

R. ARDUENNENSIS, *Crepin*, Notes, ii. p. 30; Déség. Toment. p. 7.

R. MOLLISSIMA, var. ARDUENNENSIS, *Dumort.* Ros. Belg. p. 49.

Bracts and veins deep red; upper surface of the leaves nearly naked, and the lower only thinly hairy, but conspicuously glandular; the petiole densely glanduloso-setose, and furnished with numerous unequal aciculi; the stipules densely glandular on the back; the calyx-tube densely aciculate.

West Yorkshire, Settle (*Woods*!). The Thirsk plant referred

here by *Déséglise* is more pubescent and less conspicuously glandular, but the corolla is beautifully gland-ciliated.

7. *R. TOMENTOSA*, *Smith*. Frutex altus, ramis elongatis arcuatis, aculeis sparsis æqualibus rectis vel subrectis gracilibus, foliolis copiose duplicato-serratis, plerisque utrinque plus minus griseo-pubescentibus, infra interdum inconspicue glandulosis, floribus 1 vel paucis, pedunculis mediocribus dense aciculatis, sepalis ascendentibus dorso dense glandulosis subpersistentibus majoribus copiose pinnatis; fructibus ovato-urceolatis vel rotundatis, aciculatis vel nudis, neque præcoccibus nec serotinis, discis mediocribus instructis.
- R. TOMENTOSA*, *Smith*, *Fl. Brit.* ii. p. 539 (1800); *Woods*, *Linn. Trans.* xii. p. 197 (excl. var. *paucis*), *Herb.* 31–33, 38, 39, 44–48, 51–58; *Fries*, *Herb. Norm.* ix. 46; *Déség. Mon.* p. 98, *Toment.* p. 28; *Reut. Cat.* edit. 2, p. 68; *Gren. Jura*, p. 234; *Dumort. Belg.* p. 50; *Baker, Review*, p. 14, *Æsicc.* 8, 9, 10.
- R. SYLVESTRIS FRUCTU MAJORE HISPIDO*, *Ray*, edit. 2, p. 296 (1696), *teste Buddle, Herb.*!
- R. VILLOSA*  $\beta$ , *Huds. Fl. Angl.* edit. 2, p. 219 (1778).
- R. CUSPIDATA*, *M. Bieb. Fl. Taur. Cauc.* i. p. 396 (1808); *Tratt. Mon.* i. p. 121; *Reich. Fl. Excurs.* ii. p. 616; *Déség. Mon.* p. 96, *Toment.* p. 8.
- R. ANDRZEJOWSKII*, *Steven in Besser, Enum. Volhy.* p. 19; *Tratt. Mon.* i. p. 120; *Déség. Mon.* p. 124, *Toment.* p. 35.
- R. HISPIDA*, *Borckh. Forst.* ii. p. 1332.
- R. BORCKHAUSENI*, *Tratt. Mon.* p. 114.
- R. PULCHELLA*, *Woods, Linn. Trans.* xii. p. 196, *Herb.* 36.
- R. TEREBINTHINACEA*, *Besser*!, non *Déséglise*.
- R. SERINGEANA*, *Godr. Fl. Lorr.* edit. 2, p. 255.
- R. INSIDIOSA*, *Gren. Fl. Jura*, p. 233.

An arching shrub 6 or 8, or even 10 feet high, with elongated branches duller than in the last and not so glaucous. Prickles scattered, uniform, the largest 4–5 lines long, rather stouter downwards than in *mollissima*, and sometimes slightly curved. Fully developed leaves 4–5 inches long, the terminal leaflet elliptical or slightly ovate, more or less rounded at the base,  $1\frac{1}{2}$ –2 inches long by about three quarters as broad, often more pointed than in *mollissima*, the serratures copiously compound, but generally sharper and not so open, the upper surface thinly grey-downy all over in the typical form, the lower more so, with often, but not

always, a few inconspicuous glands scattered over the surface; the stipules copiously gland-ciliated, thinly hairy and glandular on the back; the petiole densely downy and more glandular, with a few scattered aciculi, which are sometimes decidedly hooked. Flowers generally 1 to 3, the peduncle 6–12 lines long, more or less densely aciculate and glanduloso-setose. Corolla bright rose-pink, or not unfrequently pure white, 18–21 lines across when expanded; the petals rarely gland-ciliated. Calyx-tube in the ordinary form oblong, either prickly or naked. Styles hairy. Sepals ascending after the petals fall, densely glandular on the back,  $\frac{5}{8}$ – $\frac{7}{8}$  inch long, the main ones copiously pinnate, lasting till after the fruit changes colour, but not truly persistent. Fruit ovate-urceolate in the typical form, or sometimes turbinate, 9–12 lines long by 8–9 lines broad, never pendent, ripening in the north of England through September, furnished with a medium-sized disk, like that of *canina*.

This appears to be universally distributed through Britain. I have seen it from Caithness (*R. Dick*) and Sutherland (*Prof. Oliver*), down to Cornwall and Devonshire (*T. R. A. Briggs*) and Sussex (*Borrer, &c.*), and gathered it myself in the Isle of Wight, and up to 550 yards in the north of England. It is spread over both the north and south of Ireland. M. Déséglise refers the three specimens in my fasciculus to three of his species—*tomentosa*, *cuspidata*, and *Andrzejowskii*. To me they seem to represent fairly what I can only consider a single variety. *Tomentosa* of Déséglise, which is unusually softly grey-downy and nearly destitute of glands, is rarely seen in Britain; *cuspidata*, which is harsher on both sides of the leaf and distinctly glandular beneath, is very common; and *Andrzejowskii* comes between them. The distribution of the plant in Scandinavia we have stated already. It is common all over Central Europe, both amongst the hills and in the plains, and reaches Spain, Algiers, Asia Minor, and the Caucasus. To this also I refer *R. resinosa*, Déséglise, Herb. Ros. 75 (Billot, Exsic. 360!, non Sternberg), and a Yorkshire plant which Déséglise calls by this name, which is moderately downy and distinctly glandular below. The plants called by Dr. Moore, in 'Cybele Hibernica,' p. 97, *tomentosa* and *scabriuscula*, he has cultivated side by side in the Glasnevin Garden, and found to come true from seed for at least two generations; and yet his *scabriuscula* does not differ from the type nearly as much as the plant just to be described

under that name, but is simply a form with white flowers tipped with crimson, and leaves quite as hairy but rather more glandular beneath than usual. The principal varieties in Britain are the following:—

Var. SUBGLOBOSA (Smith).

R. SUBGLOBOSA, *Smith, Eng. Fl.* ii. p. 384; *Boreau, Fl. Cent.* edit. 3, no. 882; *Déség. Mon.* p. 99, *Exsic.* 37; *Reut. Cat.* p. 67.

R. SHERARDI, *Davies in E. Fl.* iv. p. 269; *Déség. Toment.* p. 33.

R. SYLVESTRIS, folio molliter hirsuto, fructu rotundo glabro, calyce et pedunculo hispido, *Dillen., Ray, Synop.* edit. 3, p. 478 (1724).

R. TOMENTOSA €, *Woods, Linn. Trans.* xii. p. 201, *Herb.* 43.

Fruit quite globose; the leaves softly grey-downy on both sides, scarcely at all glandular on the petiole or under surface, the serratures often not so compound as in the type; the flowers in some of the specimens 7–8 in a cluster, and the prickles stouter and a little curved.

Sherard's plant, on which it was founded, was gathered by the Thames-side near Kingston; and I have seen this variety also from the Isle of Wight, Cambridgeshire, Devonshire, Anglesea, Yorkshire, and Northumberland. *R. cinerascens*, *Dumort. Mon.* p. 50 (*R. velutina*, *Chabert*) agrees with it in everything except that the serratures of the leaves are quite simple.

Var. FARINOSA (Rau).

R. FARINOSA, *Rau, Enum.* p. 147; *Bechst. Forstb.* p. 243; *Tratt. Mon.* p. 103; *Redouté*, 4to edit. t. 52; *Déség. Toment.* p. 17.

A small weak variety, with leaves densely grey-downy when young; petioles slightly glandular; serrations open and copiously compound; fruit obovoid, both it and the short peduncle quite destitute of aciculi and glandular setæ, and main sepals only very slightly compound.

I have Déséglise's authority for referring to Rau's plant one gathered by Mr. Hailstone in Perthshire, near Blair Athol; and that from Redcar, North Yorkshire, gathered by him, and called by Smith, in the 'English Flora,' *villosa*, var. *pulchella*, is very nearly the same. This variety and the last are the forms of *tomentosa* most likely to be confounded with *mollissima*.

Var. SCABRIUSCULA (Smith).

R. SCABRIUSCULA, *Smith, Eng. Bot.* t. 1896; *Winch, Geog. Dist.* edit. 2, p. 45 (*ex parte*); *Déséglise, Toment.* 32, non *Woods*.

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*R. TOMENTOSA*  $\beta$ , *Woods, loc. cit., Herb.* 40.

*R. COLLINA*, *Fries, Herb. Norm.* vi. 42, non *Jacq.*

The plant intended by Smith under this name differs from the type by having the leaves less hairy, and, consequently, greener and harsher. They are often very nearly naked on the upper surface when mature, and are hairy principally on the ribs beneath, and scarcely at all glandular. The prickles are straight and slender, and the fruit ovate and usually densely aciculate. This is a widely dispersed variety; but many of Winch's specimens, and the plant described by Woods, do not belong to it. On this point I quite indorse Smith's remarks in the 'English Flora,' vol. ii. p. 384. Lindley's var. *resinosa* (*Monog.* p. 77) is essentially the same, with deep-coloured flowers, very narrow leaves, and very sharp compound teeth.

Var. *SYLVESTRIS*, *Woods.*

*R. TOMENTOSA*, var. *SYLVESTRIS*, *Woods, loc. cit. Herb.* 49, 50.

*R. SYLVESTRIS*, *Lindl. Synops.* p. 101, non *Reich.*

*R. JUNDZILLIANA*, *Baker, Review*, p. 21, *Exsic.* 11, but scarcely of Besser.

*R. BRITANNICA*, *Déséglise, MSS.*

Prickles stouter than in the type, and slightly curved. Leaves naked above when mature, thinly hairy, and conspicuously glandular beneath, with densely glanduloso-setose hairy petioles; stipules and bracts slightly hairy and glandular on the back; peduncles and ovate fruit densely aciculate and glanduloso-setose.

I now believe my *Jundzilliana* to be essentially the same as Lindley's *syvestris*, and not worth regarding as more than a variety of *tomentosa*. Mr. Webb's original Cheshire plant had robust uncinatè prickles, flowers often 6-10 in a cluster and broad cordate leaflets, recalling the aspect of the *Gallicanæ* group; but the average of the variety, as represented in my fasciculus, differs principally from *scabriuscula* by the leaves being considerably glandular beneath.

Var. *OBOVATA*, *Baker.*

Prickles uncinatè; leaflets obovate-oblong, with a subdeltoid base and very deep and compound upper teeth, grey-green, soon quite naked on the upper surface, thinly hairy and glandular beneath; the petiole densely downy, but not glanduloso-setose;

the peduncles very short and quite hidden by the large sheathing bracts, which are nearly naked on the back, but glandular towards the edge; both the peduncle and glaucous oblong calyx-tube quite naked, and the sepals naked on the back.

Durham, by the side of the highroad a little out of Eglestone going towards Middleton in Teesdale. A connecting link between *tomentosa* and *pulverulenta*.

### Group. 3. RUBIGINOSÆ.

8. *R. RUBIGINOSA*, Linn. Frutex mediocris, ramis brevibus ascendentibus, aculeis subsparsis majoribus falcatis modice robustis aciculis paucis subrectis inæqualibus intermixtis, foliolis mediocribus copiose duplicato-serratis supra mox glabris, infra leviter pubescentibus et copiose odorato-glandulosis, floribus 1 vel paucis, pedunculis dense aciculatis, sepalis ascendentibus dorso dense glandulosis majoribus copiose pinnatis subpersistentibus, stylis villosis, fructibus globosis serotinis plerisque aciculatis, disco angusto.
- R. RUBIGINOSA*, Linn. Mant. ii. p. 564; Smith, Eng. Fl. ii. p. 385; Lindl. Mon. p. 86,  $\alpha$  et  $\gamma$ ; Borrer in Brit. Fl. edit. 3, p. 237; Fries, Herb. Norm. vi. 41; Déséglise, Mon. p. 109.
- R. EGLANTERIA*, Woods, Linn. Trans. xii. p. 206, Herb. 61-66.
- R. UMBELLATA*, Leers, Herb. p. 117; Déség. Mon. p. 111; Reut. Cat. p. 72; Billot, Exsic. 3596; Wirtg. Exs. 470.
- R. ECHINOCARPA*, Ripart, Déség. Mon. p. 110; Wirtg. Exs. 742.
- R. COMOSA*, Ripart, Schultz's Archiv. p. 254; Déség. Mon. p. 113, Exsic. 35; Billot, Exsic. 3597.

A bush 3 to 5 feet high, the main stem scarcely arching, and the branches short and straight. Main prickles scattered, 3-4 lines long, falcate and much thickened downwards, often mixed with a few straight slender unequal aciculi. Stipules densely glandular, but nearly destitute of hairs on the back. Well-developed leaves of the barren shoot  $2\frac{1}{2}$ -3 inches long, with seven leaflets, the terminal one broad-oblong or obovate, 9-12 lines long by three-quarters as broad; the serratures open and copiously compound, the upper surface nearly naked or finally quite so, the lower densely covered all over with fragrant glands, thinly hairy on the ribs; the petiole densely glanduloso-setose and thinly hairy, usually furnished with numerous unequal aciculi, the larger ones strongly hooked. Bracts often  $\frac{1}{4}$  inch broad, nearly naked on the back. Flowers usually 1-4; the peduncles generally

under  $\frac{1}{2}$  inch long, densely clothed with glandular setæ and strong aciculi. Calyx-tube subglobose or broad ovate-urceolate, usually aciculate. Corolla generally full rose, 12–15 lines across when expanded. Styles densely villose. Sepals densely glandular on the back, the larger ones 7–8 lines long, slightly leaf-pointed, with 2–3 pairs of spreading linear pinnae, not falling till after the fruit changes colour, which is not till October or late in September. Ripe fruit subglobose, measuring about  $\frac{1}{2}$  inch each way.

This, the common Sweet-briar of gardens, is a plant of such long-standing cultivation that it is very difficult to judge at the present time which are its really wild stations. It is plainly indigenous amongst the chalk-hills of the south of England, but in the north of England, though tolerably plentiful in hedges in some districts (as, for instance, round the foot of the Cheviots near Wooller), I have never seen it amongst the cliffs or in the aboriginal woods of the mountain-valleys, like *canina*, *tomentosa*, and *mollissima*. I have seen specimens from as far north as Perth and Inverness. Messrs. Moore and More do not claim it with any confidence as a native of Ireland. It is common as a truly wild plant in Central Europe, extending to Teneriffe, Greece, Tauria, and Persia. After the study of numerous authenticated specimens, I cannot draw any line of distinction between the plants quoted as synonyms.

Var. *PERMIXTA* (Déséglise).

R. *PERMIXTA*, Déség. Mon. p. 107, *Essic.* 72.

R. *MICRANTHA*, var. *PERMIXTA*, Gren. *Fl. Jura*, p. 252; Dumort. *Ros. Belg.* p. 55.

Leaves in our plant quite without hairs, but as densely glandular on the under surface and petiole as in the type; styles quite glabrous; fruit ovate-urceolate, half as long again as broad, and decidedly narrowed at the neck, densely prickly, the sepals fallen before it reddens.

Surrey, bank of the valley in which *Teucrium Botrys* grows on Box Hill (*Borrer*!). This recedes from the type towards *micrantha* by the naked styles and shape of the fruit, but in other respects agrees with the type.

Var. *SYLVICOLA* (Déség. et Ripart).

R. *SYLVICOLA*, Déség. et Ripart, *MSS.*!

Bush laxer and not so strongly scented as in the type, prickles



more slender, leaflets larger, thinly hairy beneath, the glands fewer and finer, the fruit broad ovate-urceolate, the styles hairy.

North Yorkshire, road-side near Low Row, Swaledale, *James Backhouse* and *J. G. Baker*.

9. *R. MICRANTHA*, *Smith*. Frutex mediocris, ramis elongatis arcuatis, aculeis sparsis conformibus falcatis deorsum robustis, foliolis mediocribus copiose duplicato-serratis, supra mox glabris, infra leviter pubescentibus prorsus glandulosis, floribus 1 vel paucis, pedunculis dense aciculatis, sepalis ascendentibus, subpersistentibus dorso glandulosis majoribus apice foliaceis paullulum pinnatis, stylis glabris, fructibus ovato-urceolatis serotinis plerisque subnudis discis mediocribus instructis.

*R. MICRANTHA*, *Smith*, *Eng. Bot.* 2490 (1812), *Eng. Flora*, ii. p. 387; *Woods*, *Linn. Trans.* xii. p. 209, *Herb.* 67, 68; *Borrer*, *Brit. Fl.* edit. 3, p. 236; *Gren. Fl. Jura*, p. 251; *Reut. Cat.* p. 71; *Dumort. Ros. Belg.* p. 54, *ex parte*, non *DC. Fl. Franç.* v. p. 539, nec *Déség. Mon.* p. 115.

*R. NEMOROSA*, *Libert in Lej. Fl. Spa*, ii. p. 80 (1813); *Boreau, Fl. Cent.* edit. 3, vol. ii. p. 229; *Déség. Mon.* 114; *Billot, Exsic.* 3598.

*R. FLORIBUNDA*, *Steven in Bess. Cat. Crem. Suppl.* iv. p. 19 (1819); *Bieb. Fl. Taur. Cauc.* iii. p. 343; *DC. Prodr.* ii. p. 621.

*R. LIBERTIANA*, *Tratt. Mon.* ii. p. 80.

*R. RUBIGINOSA*, var. *MICRANTHA*, *Lindl. Mon.* p. 87.

A taller and laxer bush than the last, generally, but not always, without any decided Sweet-briar fragrance. Prickles scattered and quite uniform, those of the main stem 3–5 lines long, decidedly falcate and thickened downwards; the scar 4–6 lines deep. Stipules varying from naked to densely glandular on the back, copiously glanduloso-ciliated. Well-developed leaves  $2\frac{1}{2}$ –3 inches long, with 7 leaflets, the terminal oblong or with an obovate tendency, 12–15 lines long by 9–12 lines broad, more pointed than in *rubiginosa*, the serrations rather sharper, copiously compound, the upper surface nearly naked, when old quite so; the lower surface scattered all over with fine but conspicuous glands; the aciculi of the petiole usually 2–4 only and subequal. Bracts densely gland-ciliated, but often nearly naked on the back. Peduncles longer than in *rubiginosa*, densely aciculate and glanduloso-setose. Calyx-tube narrowly ovate-urceolate, often naked. Petals pale rose, the expanded corolla not much over an inch across. Styles glabrous. Sepals densely glandular on the back, the main ones  $\frac{1}{2}$ – $\frac{5}{8}$  inch long, more leafy at the point than in *rubiginosa*, but with

only 1-2 pairs of minute pinnae, spreading after the petals fall, falling when the fruit has changed colour. Fruit bright scarlet, ovate-urceolate, 7-8 lines long by 5-6 lines broad, with a decided disk like that of *canina*, changing colour late in September or early in October.

This differs from *rubiginosa* by its laxer habit of growth, faint odour, uniform prickles, glabrous styles, and in the character of the fruit and sepals, and may be considered midway between *rubiginosa* and *canina*. In some parts of the Isle of Wight it is as plentiful as *canina*; it is a plant of the Channel Islands (*Rev. T. Salwey*!); Mr. Borrer gathered it in many places in Sussex, and Mr. Briggs in Devon and Cornwall; and it extends northward to Anglesea (*Wilson*!, *Borrer*!, *Webb*!), Cheshire (*Webb*!), Yorkshire (*Hailstone*!, *Baker*), and to Northumberland (Buston, near Alnwick, *J. Chrisp*!). In Ireland it appears to be restricted to the neighbourhood of Cork, whence I have seen specimens gathered by Mr. Isaac Carroll; but Dr. Mackay's plant thus labelled was *rubiginosa*. On the Continent it is not known in Scandinavia, but it begins in Belgium and is diffused through France to Geneva, and eastward as far as Tauria, whence there is a specimen from Steven in the Kew herbarium.

Var. BRIGGSII, *Baker*.

A luxuriant variety with leaflets 15-18 lines long, 10-12 lines broad, naked above, less glandular than in the type beneath; calyx-tube and fruit shorter and stouter, and, like the peduncle, quite naked; sepals more pinnate and scarcely glandular on the back.

Devonshire, quarry at Rumble, near Plymouth (*Briggs*!).

Var. HYSTRIX (*Leman*).

*R. HYSTRIX*, *Leman*, *Bull. Phil.* 1818, extr. p. 18; *Boreau*, *Fl. Cent.* edit. 2, vol. ii. p. 182, non *Lindl. Mon.* p. 129, t. 17 (1820).

*R. LEMANII*, *Boreau*, *Fl. Cent.* edit. 3, vol. ii. p. 230; *Déség. Mon.* 102, *Essic.* 71.

*R. MICRANTHA*, var. *LEMANII*, *Dumort. Mon.* p. 55.

A small variety with narrow sharply toothed leaves, densely glandular beneath, but quite without hairs; terminal leaflet cuneate at the base; peduncle densely aciculate; calyx-tube naked.

Surrey, Boxhill; and Oxfordshire, Caversham (*Borrer*!); Gloucestershire, St. Vincent's rocks (*Dr. St. Brody*!)

In leaves and general habit very like *R. sepium*; but the sepals are glandular on the back, and the peduncle densely aciculate.

10. *R. PULVERULENTA*, *M. Bieb.* Frutex mediocris, ramis elongatis arcuatis, aculeis sæpe subinæqualibus, majoribus falcatis robustis, foliolis obovatis copiose duplicato-serratis, supra cito glabris, infra tenuiter pubescentibus prorsus glandulosis, floribus 1 vel paucis, pedunculis nudis vel raro aciculatis, sepalis ascendentibus subpersistentibus dorso nudis vel leviter glandulosis, majoribus copiose pinnatis, stylis hirsutis, fructibus nudis serotinis ovato-urceolatis vel rotundatis discis mediocribus instructis.

*R. PULVERULENTA*, *M. Bieb. Fl. Taur.-Cauc.* i. p. 399 (1808); *Lindl. Mon.* p. 93; *DC. Prodr.* ii. p. 617.

*R. INODORA*, *Fries, Novit.* i. p. 9 (1814); *Herb. Norm.* x. 51, non *Auct. Angl.*

*R. INODORA*  $\gamma$ , *Borrer, in Brit. Fl.* 3rd edit. p. 235 (non  $\alpha$  et  $\beta$ ).

*R. KLUKII*, *Besser, Hort. Crem.* 1816, p. 118; *M. Bieb. Fl. Taur.-Cauc.* iii. p. 346; *Tratt. Mon.* ii. p. 70; *Wim. et Grab. Fl. Sil.* ii. p. 89; *Gren. Jura*, p. 248; *Déség. Mon.* p. 100, *Exsic.* 29; *Billot, Exs.* 1665.

*R. SEPIUM*  $\beta$ . *KLUKII*, *Reut. Cat. Gen.* p. 73.

*R. GRANDIFLORA*, *Wallr. Ann. Bot.* p. 66; *Roth, Enum.* p. 451.

*R. BALSAMEA*, *Besser, Cat. Hort. Crem.* 1815.

*R. IBERICA*, *Steven, M. Bieb. Fl. Taur.-Cauc.* iii. p. 345; *DC. Prodr.* ii. p. 617.

A taller and stronger bush than *micrantha*, with a similar habit. Prickles uniform, or with a few setaceous aciculi intermixed, the larger ones 3-4 lines long, robust, falcate. Well-developed leaves of the barren shoot 3-3½ inches long, with 7 leaflets, the terminal one obovate-oblong, 15-18 lines long by three-quarters as broad, or rather less, thicker in texture than in *micrantha*, soon quite naked above, slightly on the ribs only but with glands scattered all over the surface beneath; the upper serratures sharp, deep, and copiously compound; the petiole densely setose, slightly hairy, with several unequal aciculi. Bracts 3-4 lines broad, naked on the back, or nearly so. Flowers usually 1-3; the peduncle 4-6 lines long, usually naked; the calyx-tube oblong, naked. Sepals 8-9 lines long, naked or slightly glandular on the back, ascending after the petals fall, subpersistent, the main ones copiously pinnate. Flowers pink, 15-18 lines across. Styles hairy. Fruit ovate-urceolate, as large as that of *canina*, and with a similar disk, not ripening till October or late in September.

This is very near *micrantha*, but is a stronger plant, quite as glandular, but larger in its leaves and flowers, with hairy styles,

more compound sepals, the peduncle typically naked, and the sepals naked on the back. I have seen it only from four counties in Britain:—Somersetshire, woods at Brean Down (*Woods*!); Yorkshire, Richmond (*Jas. Ward*!); Durham, Ravensworth woods (*Robertson*!); and Northumberland, gathered by myself in two places near Wooller. On the other hand, it closely resembles *R. Borreri*; but in that the leaves are only very faintly or not at all glandular below, with the lower half broader, the peduncles aciculate, and the sepals reflexed and deciduous. I have seen a specimen of the Taurian plant from Steven, and of Lindley's from Lyell, and cannot trace any material difference between these and ours and the Scandinavian, French, and Swiss examples labelled with the names I have quoted. Koch, Ledebour, and Reuter agree in uniting it with the common South-European *R. sepium*, Thuill., which is smaller in all its parts, with the leaves entirely without hairs and narrowed to both ends, glabrous styles, and slender ovate-urceolate fruit.

Var. BILLIETHI (*Puget*).

*R. BILLIETHI*, *Puget in Billot, Exsic.* 3594.

*R. VAILLANTIANA*, *Boreau, MSS.*!

*R. SEPIUM*, *Borrer, E. B. S. t.* 2653. *Brit. Fl.* edit. 3, p. 238, *non Thuil.*

*R. SEPIUM* ♂, *Rapin, Vaud Guide*, edit. 2, p. 199.

Prickles of the main stem decidedly unequal, the main ones as large and as strong as those of the type, but only slightly hooked. Leaflets smaller; the terminal one 9–12 lines long by three-quarters as broad, obovate, with a subdeltoid base; the upper surface at first slightly hairy, the lower thinly hairy and finely glandular all over. Peduncle naked; calyx-tube narrowly ovate-urceolate; the sepals, like those of *micrantha*, lengthened out at the point, but only sparingly pinnate; the styles hairy; the fruit ovate-urceolate, 7–8 lines deep.

In Britain I have seen this only from Allesley in Warwickshire, where it was gathered by the Rev. W. T. Bree; but I have authenticated specimens, under the three names I have quoted, from Savoy. From the true *sepium*\*, which is very widely diffused throughout the south of Europe, it differs by its leaves thinly

\* I gathered in the summer of the present year, on the south slope of Hind Head in Surrey, a plant differing only from the typical *sepium* by having the leaves very slightly hairy on the petiole and midrib beneath. This should now therefore be placed as the type of the species, and the other forms described as its varieties.

hairy and not so densely glandular beneath, not narrowed in the upper half, villose styles, and stouter fruit. It comes very near *R. lugdunensis*, Déség. Mon. p. 101, which has leaves less hairy but more glandular beneath, shorter peduncles and round fruit.

Var. *CRYPTOPODA*, *Baker*.

*R. CRYPTOPODA*, *Baker*, *Review*, p. 22.

Prickles rather unequal, the large ones uncinatè and robust. Leaflets ovate-oblong, the terminal one about an inch long by three-quarters as broad; the upper surface glaucous green, naked; the lower thinly glandular all over, hairy on the main veins; the petiole hairy and glanduloso-setose, with 2-4 hooked aciculi. Bracts and stipules glandular on the back, but scarcely hairy. Peduncle very short, quite naked. Fruit subglobose, 7-8 lines each way. Sepals naked on the back; the main ones 8-9 lines long, copiously pinnate.

West Yorkshire, Luddenden, near Halifax, *S. King*!

Very near *R. virgultorum*, Ripart in Desegl. Exsic. 32, which has similar peduncles, fruit, and sepals, but leaves more decidedly glandular beneath, but not at all hairy, and less hairy styles.

#### Group 4. CANINÆ.

11. *R. CANINA*, *Linn.* Frutex altus, ramis elongatis arcuatis, aculeis sparsis æqualibus robustis falcatis, foliolis simpliciter vel duplicato-serratis utrinque glabris eglandulosis vel præcipue infra tenuiter pubescentibus, floribus 1 vel paucis, pedunculis plerisque nudis, sepalis dorso plerisque nudis reflexis deciduis, vel interdum ascendentibus subpersistentibus, majoribus copiose pinnatis, stylis plus minus hirsutis, fructibus ovato-urceolatis vel rotundatis (plerisque serotinis) discis conspicuis instructis.

Series 1. *Ecristatæ*. *Leaves not glandular beneath. Fruit very hard when green, not ripening till October or the latter part of September; the sepals still remaining reflexed after the petals fall and becoming disarticulated before it changes colour.*

\* *Peduncles not aciculate; leaves glabrous on both sides.*

Var. *LUTETIANA* (*Leman*).

*R. LUTETIANA*, *Leman*, *Bull. Phil.* 1818, extr. p. 9; *Baker*, *Review*, p. 25, *Exsic.* 12.

*R. CANINA*, *Linn. Herb.*! *Woods*, *Linn. Trans.* ix. p. 233 (excl. var.  $\delta$ ),

*Herb.* 108-111, 115, 116; *Smith, Engl. Fl.* ii. p. 394; *Déség. Mon.* p. 61, *Exsic.* 12; *Reut. Gen.* p. 69; *Dum. Belg.* p. 59.

R. NITENS et GLAUDESCENS, *Desv. in Mérat, Fl. Paris*, p. 192.

R. SWARTZIANA et AFZELIANA, *Fries, Fl. Hall.* pp. 86, 87.

R. FALLAX, *Puget in Déség. Exsic.* 60.

An arching bush often 10 or 12 feet high, with elongated arching branches. Prickles scattered, uniform, falcate, very robust, 3-5 lines long, and the scar as deep. Stipules quite naked on both sides, and only slightly gland-ciliated. Fully developed leaves of the barren shoot 3-4 inches long, with 7 leaflets; the terminal one obovate-oblong, 15-18 lines long by about three-quarters as broad; both sides quite naked, green or glaucous; the serration sharp and simple; the teeth often quite glandless; the petiole with 2-4 hooked aciculi, but without hairs or glandular setæ. Flowers 1-4, on naked peduncles generally more than half an inch long; the corolla pinkish, 18-24 lines broad. Styles moderately hairy. Fruit ovate-urceolate, 7-9 lines long, not changing colour till October in the north, or late in September in the south of England. Sepals  $\frac{5}{8}$ - $\frac{3}{4}$  inch long, naked on the back, but little gland-ciliated, the main ones copiously pinnate.

In the broad sense of the term, as here defined, *R. canina* is universally dispersed through Britain, including Ireland, and is in most districts far more common than any other Rose, or than all the others put together. In the north of England it reaches an altitude of 450 yards. It extends everywhere through Europe except Lapland and Finland, and reaches the Canaries, Barbary, Persia, and Siberia. Of the varieties here described, *lutetiana*, *dumalis*, and *urbica*, with intermediates between them, are the most common in Britain, all the others being much less frequent. Of this, the names *glaucescens* and *Afzeliana* refer especially to the plant with glaucous leaves. *R. Malmundariensis*, *Lej. Fl. Spa*, i. p. 231, a modification of this variety with sepals glandular on the back, has been gathered by Rev. W. H. Purchas in Derbyshire.

Var. SURCULOSA (*Woods*).

R. SURCULOSA, *Woods, Linn. Trans.* xii. p. 228. *Herb.* 117-121.

A very robust form, like the last, but with flowers often 10-12 (I have seen 20-30) in a cluster, flat leaflets broadly rounded at the base and with more open teeth; the young shoots and leaves often suffused with red.

Apparently confined to the south of England.

Var. SPHÆRICA (*Gren.*).

R. SPHÆRICA, *Gren. in Billot, Archiv.* p. 333, *Exsic.* 1479; *Déség. Mon.* p. 64; *Gren. Jura*, p. 241; *Reut. Cat.* p. 70.

R. CANINA, var. SPHÆRICA, *Dumort. Belg.* p. 60.

Differs only from *lutetiana* by its broader leaflets, more rounded at the base, slightly pubescent petioles, globose fruit 7–8 lines broad and deep, and more villose styles.

A plant gathered by Mr. Briggs at Modbury, in Devonshire, quite agrees with what I have under this name from Besançon and Geneva.

Var. SENTICOSA (*Ach.*).

R. SENTICOSA, *Ach. Vet. Acad. Handl.* 1813, p. 91, t. 13.

R. ACIPHYLLA, *Rau, Enum.* p. 69, cum icone; *Tratt. Mon.* ii. p. 22; *Déség. Mon.* p. 66.

R. SPHÆRICA, var. ACIPHYLLA, *Gren. Jura*, p. 242.

Fruit perfectly globular, but much smaller than in the last; the general habit of the plant very slender and flexuous, the fully developed leaves not more than an inch long by 6–7 lines broad; the teeth very acute. "It has the aspect of *R. sepium*, but the petioles and leaflets are glandless."—*Déséglise*.

Devonshire, hedge near Yeo, Briggs!

Var. DUMALIS (*Bechst.*).

R. DUMALIS, *Bechst. Forst.* p. 241 (1810); *Tratt. Mon.* ii. p. 24, *Gren. Jura*, p. 214; *Baker, Review*, p. 25, *Exsic.* 13–15.

R. STIPULARIS, *Mérat, Fl. Paris*, p. 192; *DC. Prodr.* ii. p. 623.

R. SARMENTACEA, *Swartz, MSS.*; *Woods, Linn. Trans.* xii. p. 213, *Herb.* 79–84; *Smith, Engl. Flora*, ii. p. 390; *Borrer, E. B. S.* t. 2595.

R. VENOSA, *Swartz, MSS.*; *Spreng. Syst.* ii. p. 544; *DC. Prodr.* ii. p. 623.

R. GLAUCOPHYLLA, *Winch, Geog. Distr.* p. 45.

R. GLAUCA, *Lois. Not.* p. 80.

R. RAMULOSA, *Godr. Fl. Lorr.* edit. 2, vol. i. p. 231.

R. CANINA, var. DUMALIS, *Dumort. Belg.* p. 60.

R. CANINA, var. SARMENTOSA, *Reut. Cat.* p. 70.

Stipules more densely gland-ciliated than in the type; teeth of the leaves more or less compound, with the secondary serrations gland-tipped; the petiole more or less glanduloso-setose and often

a little hairy ; the sepals also gland-ciliated, and the flowers sometimes deeper in colour.

A very common form, also either green or glaucous ; the latter *venosa*, Sw., and *glaucophylla*, Winch. Specimens gathered in Northumberland (*Baker*, Exsic. 15) and Leicestershire (*Bloxam*!) with sepals glandular on the back ; and a plant in Durham, near Darlington (*Jas Ward*!), exactly accords with *R. Malmundariensis*, Déség. Exsic. 48, with round fruit and numerous flowers in a cluster.

Var. *BISERRATA* (*Mérat*).

*R. BISERRATA*, *Mérat*, *Fl. Par.* p. 190 ; *Leman*, *Bull. Phil.* 1818, extr. p. 9 ; *Tratt. Mon.* ii. p. 33 ; *Déség. Mon.* p. 72 ; *Gren. Jura*, p. 245 ; *Reut. Cat.* p. 70.

*R. CANINA*, var. *BISERRATA*, *Dumort.* p. 61.

*R. VINACEA*, *Baker*, *Review*, p. 32, *Exsic.* 28.

*R. SEPIUM*, var. *NITENS*, *Desv. Journ. Bot.* ii. p. 117.

Scarcely different from the last, but the serratures open and very compound, the petioles more glanduloso-setose, and the glands extending a little to the midrib beneath. Déséglise's plant has globose fruit ; my *vinacea* has oblong fruit, narrow sharp-pointed leaves and bracts, branches and stipules suffused with vinous red.

**\*\* *Peduncles not aciculate ; leaves naked above, hairy only on the ribs beneath.***

Var. *URBICA* (*Leman*).

*R. URBICA*, *Leman*, *Bull. Phil.* 1818, extr. p. 9 ; *Déségl. Mon.* p. 84, *Exsic.* 22 ; *Baker*, *Review*, p. 26, *Exsic.* 16.

*R. COLLINA*, var. *URBICA*, *Dumort. Belg.* p. 58.

*R. COLLINA*  $\beta$  et  $\gamma$ , *Woods*, *Linn. Trans.* xii. p. 219, *Herb.* 96, 98-103.

*R. FORSTERI*, *Smith, Eng. Flora*, ii. p. 392 (1824) ; *Borrer, E. B. S.* t. 2611.

*R. RAMEALIS*, *Puget in Déség. Exsic.* 66.

General habit, leaves, and fruit of *lutetiana* ; but the grey or green simply toothed leaves thinly hairy on the under surface ; the serration sharp and simple ; the petiole densely pubescent, but scarcely at all glanduloso-setose ; the fruit oblong or ovate-urceolate, rarely subglobose.

A very common variety, from which *R. platyphylla*, *Rau*, *Enum.* p. 82 (*R. opaca*, *Gren. in Billot, Archiv.* p. 332, *Exsic.* 1748), only



differs by its larger grey-green leaves more rounded at the base, and large subglobose fruit.

Var. FRONDOSA (*Steven*).

R. FRONDOSA, *Steven*, MSS. ! *Spreng. Syst. Veg.* ii. p. 544.

R. DUMETORUM, *Woods*, *Herb.* 93.

Differs from the last by its small flat ovate-oblong leaflets much rounded at the base, and small subglobose fruit.

Yorkshire (*Hailstone*!), Sussex (*Borrer*!), Isle of Wight (*Baker*). Very near *obtusifolia*, *Desv. Journ. Bot.* ii. p. 317 (*R. leucantha*, *Bast. Suppl. Fl. Maine-et-Loire*, p. 32), but the leaflets naked above and less hairy below.

Var. ARVATICA, *Baker*.

R. ARVATICA, *Baker*, *Review*, p. 33, *Exsic.* 25-27, non *Puget*.

R. TRACHYPHYLLA, var. ARVATICA, *Dumort. Belg.* p. 59.

R. CILIARIS, *Wils.* MSS. (*in herb. Borrer*).

Bears much the same relation to *urbica* that *dumalis* does to *lutetiana*. Leaflets obovate-oblong, naked above, hairy on the ribs below; the serratures copiously compound; the accessory teeth gland-tipped; the petioles densely pubescent and glanduloso-setose, and the glands often extending to the midrib beneath; the bracts, stipules, and sepals copiously gland-ciliated. Fruit ovate.

A common form in the north of England. It is the Warrington Rose mentioned by Mr. Borrer in the 'British Flora,' edit. 3, p. 241. Mr. Robertson labels it "midway between *canina* and *inodora*." I have gathered it in North Yorkshire with sepals glandular on the back.

\*\*\* *Peduncles not aciculate. Leaflets more or less hairy on both sides.*

Var. DUMETORUM (*Thuill.*).

R. DUMETORUM, *Thuill. Par.* p. 250; *Fries, Herb. Norm.* viii. p. 43; *Déség. Mon.* p. 82; *Baker, Review*, p. 27, *Exsic.* 19.

R. DUMETORUM  $\alpha$ , *Gren. Jura*, p. 247.

R. COLLINA, *DC. Fl. Franç.* iv. p. 441; *Wahl. Succ.* 563, non *Jacq.*

R. SOLSTITIALIS, *Besser, Prim. Fl. Gall.* p. 324 !

R. SUBMITIS, *Gren. Schultz's Archives*, p. 332; *Billot, Exsic.* 1476.

Stipules and bracts hairy on the back, but little gland-ciliated. Leaflets grey-green, softer in texture than in the foregoing forms, and sooner destroyed by frost; the terminal one often 18–21 lines long by an inch broad, broadly rounded (or even cordate) at the base, softly hairy all over beneath, and thinly so above when old; the serratures simple and moderately open; the petioles densely grey-pubescent, scarcely at all glanduloso-setose, and sometimes without prickles. Flowers often deeper in colour than the preceding. Fruit large, generally ovate-urceolate, not so hard when green, and ripening earlier than in the foregoing varieties, and the sepals often not fully reflexed. Styles villose\*.

Principally in the north of England. *R. uncinella*, Besser, is a montane form with firmer leaves, less hairy above, and large subglobose fruit.

Var. *PRUINOSA*, *Baker*.

*R. PRUINOSA*, *Baker, Review*, p. 27.

*R. CÆSIA*, *Borrer, Brit. Flora*, edit. 3, p. 242 (*ex parte*).

Like the last, but very glaucous, the serrations laxer and compound, the secondary teeth gland-tipped, and petioles slightly glandular.

Northumberland, Durham, and Yorkshire amongst the hills. A form with sepals glandular on the back, by the Swale, near Keld, and a similar plant gathered in Derry by Dr. Moore.

Var. *INCANA*, *Woods*.

*R. TOMENTOSA*, var. *INCANA*, *Woods, Linn. Trans.* xii. p. 203, *Herb.* 59.

*R. CÆSIA*, var. *INCANA*, *Borrer, in Brit. Flora*, 3rd edit. p. 242.

Leaflets of average size, narrowly ovate-oblong, very glaucous, and slightly downy above, densely downy and with a few inconspicuous scattered glands beneath; the serration copiously compound, the secondary teeth gland-tipped; the petiole both pubescent and setose; the peduncle slightly hairy; the styles densely villose; the fruit large and oblong; the sepals not falling so soon as usual.

\* "*R. dumetorum* inter *R. caninam* et *coriifoliam* exacte media est. Millena et varia circa Upsaliam videre licet *R. caninæ* et *dumetorum* individua, facillime vero semper ad suam speciem referenda, quare Ill. Wahlenberg, plantas ipsas nec characteres modo respiciens, tam in Fl. Upsaliensi quam Suecica distinxit, et quanto diutius ejus vestigia repetii, tanto magis ad hanc sententiam inclino."—*FRIES, Summa*, p. 172–173.

Gathered in Forfarshire by G. Don. *R. canescens*, Baker, Review, 28, *Exsic.* 20, is a form with similar leaves, but with the fruit and sepals of the type.

Var. TOMENTELLA, *Leman*.

R. TOMENTELLA, *Leman*, *Bull. Phil.* 1818, extr. p. 10; *Déség. in Billot's Archiv.* p. 334, *Exsic.* 1477; *Déség. Monog.* p. 92, *Exsic.* 70; *Baker, Review*, p. 33, *Exsic.* 29; *Dumort. Belg.* p. 56; *Reut. Cat.* 71; *Gren. Jura*, p. 247.

R. TOMENTOSA γ. DUMETORUM, *Gaud. Fl. Helv.* iii. p. 352.

R. RUBIGINOSA, var. C, *Rapin, Cat. Vaud.* p. 101.

R. INODORA, *Hook. Fl. Lond.* n. s. t. 117?

Branches green and very flexuous; prickles very strongly hooked; fully developed leaflets under an inch long, flat, ovate-oblong, rounded at the base, green and thinly hairy above, hairy all over and sometimes with a few inconspicuous glands beneath; the petioles hairy and glanduloso-setose, with 3-4 strongly hooked aciculi; peduncles shorter than usual and often quite hidden by the bracts; flowers smaller and very pale; styles densely hairy; fruit small ( $\frac{1}{2}$ – $\frac{5}{8}$  inch long), subglobose or broad ovate-urceolate, very late in ripening.

I have gathered this in many parts of England, from the Isle of Wight northward to Northumberland, and received it from nearly all my correspondents; and yet it does not seem to have been known to either Woods or Borrer. Déséglise, Grenier, and Reuter all classify it with the *Rubiginosæ*; but the glands beneath are so few and faint as to be scarcely visible except with a lens. For a full account of its modifications, see a paper by Crepin in the Bulletin of the Royal Botanical Society of Belgium, v. p. 26.

\*\*\*\* *Peduncles more or less aciculate and glanduloso-setose.*

Var. ANDEVAGENSIS (*Bast.*).

R. ANDEVAGENSIS, *Bast. Fl. Maine-et-Loire* (1809), p. 189; *DC. Fl. Franç.* v. p. 539; *Déség. Mon.* p. 75, *Exsic.* 17, 18; *Reut. Cat.* p. 70; *Baker, Review*, p. 31.

R. CANINA, var. ANDEVAGENSIS, *Dumort.* p. 60.

R. RAUII, *Tratt. Mon.* ii. p. 35.

R. SEMPERVIRENS, *Rau, Enum.* p. 120, non L.

R. CANINA, var. GLANDULIFERA, *Woods, Linn. Trans.* xii. p. 223, *Herb.* 112-114.

Differs from *lutetiana* only by its aciculate peduncles.

Not unfrequent, especially in the south of England. A form with sepals glandular on the back, from the Pass of Lanrick, Perthshire (*Borrer*!), Braemar (*Watson*!), and Caernarvonshire (*Bloxam*!).

Var. VERTICILLACANTHA (*Mérat*).

R. VERTICILLACANTHA, *Mérat, Fl. Par.* p. 190; *DC. Prodr.* ii. p. 622; *Déség. Mon.* p. 67; *Baker, Review*, p. 31.

R. DUMALIS, var. GLANDULOSA, *Gren. Jura*, p. 215.

Bears the same relation to *dumalis* that the last does to *lutetiana*.

Not uncommon. Extreme specimens with the calyx-tube prickly as well as the peduncle, and sepals glandulous on the back, gathered in Somersetshire near Bridgewater (*T. Clark*!) and Weston-super-mare (*Woods*!), and in Devonshire (*Briggs*!). *R. psilophylla*, *Rau, Enum.* p. 101, only differs from this by its hairy petioles.

Var. COLLINA, *Jacq.*

R. COLLINA, *Jacq. Austr.* t. 197; *Tratt. Mon.* ii. p. 2; *Déség. Mon.* p. 89; *Baker, Seem. Journ.* iii. p. 82.

R. COLLINA  $\alpha$  et  $\beta$ , *Dumort. Belg.* p. 57.

R. CAMPESTRIS, *Swartz, MSS.*; *Fries, Fl. Halland.* p. 86.

R. KOBINCIANA, *Besser, Enum. Volh.* p. 60; *Tratt. Mon.* ii. p. 48; *Déség. Mon.* p. 76.

R. TORTUOSA, *Wierzb. in Reich. Exsic.* 1751.

R. UMBELLATA, *Libert, in Lej. Fl. Spa*, ii. p. 313.

The representative of *urbica* in this group. As gathered by Mr. Borrer in Surrey and Mr. Briggs near Plymouth this has numerous flowers in a cluster, and flat leaves broadly rounded at the base with moderately open serrations; but the commoner form is, like ordinary *urbica*, less robust, with narrower more sharply toothed leaves.

Var. CÆSIA (*Smith*).

R. CÆSIA, *Smith, Engl. Bot.* t. 2637; *Woods, Linn. Trans.* xii. p. 212, *Herb.* 78; *Borrer, Brit. Flora*, edit. 3, p. 242 (*ex parte*).

Very near the last, the leaves grey-green, softly hairy beneath and slightly so on the upper surface, the teeth slightly compound. Petiole slightly glanduloso-setose. Stipules and bracts pubescent on the back. Sepals glandular on the back.

Drawn for 'English Botany' from Taynuilt, Argyle (*Borrer*!). Gathered also in Derbyshire by the Rev. W. M. Hind and Rev. W. H. Purchas, in Leicestershire by the Rev. A. Bloxam, and by myself in Northumberland near Wooller.

Var. *CONCINNA*, *Baker*.

Prickles very much hooked. Leaflets very small, the terminal one 8-9 lines long, flat, broad obovate, thinly downy above when young, hairy all over beneath; the teeth simple, moderately open; the petioles pubescent, but scarcely at all setose; the calyx-tube small, broad ovate; the styles slightly protruded, thinly hairy.

Devonshire; near Stoke Bridge (*Borrer*!). The representative of the Continental *obtusifolia* in this group.

Var. *DECIPIENS* (*Dumort.*).

R. *TOMENTELLA*, var. *DECIPIENS*, *Dumort. Belg.* p. 57.

Like *tomentella*, but the peduncle densely aciculate; the midrib beneath more glandular; the petiole both pubescent and glanduloso-setose, with several unequal aciculi; the sepals not fully reflexed, and densely glandulous on the back.

Northumberland, Wooller (*Baker*), and plants like ordinary *tomentella*, but with aciculate peduncles, gathered in Leicestershire by the Rev. A. Bloxam, and in Cheshire by Mr. Wilson and the Hon. J. L. Warren.

Series 2. *Subcristatæ*. *Leaves not glandular beneath. Fruit softer when green, in the north of England ripening early in September; the sepals ascending after the petals fall, and not disarticulated till after it turns crimson. Disk narrower than in the last section, and styles more densely villose.*

This series of forms corresponds to the *Canina*, subsection 1, of Grenier's 'Flora of the Jura,' and to the *R. monticola* of the second edition of Rapin's 'Botanists' Guide to the Canton Vaud.'

Var. *REUTERI* (*Godet*).

R. *REUTERI*, *Godet, Fl. Jura*, p. 218; *Reut. Cat.* p. 68.

R. *REUTERI*  $\alpha$ , *Gren. Jura*, p. 239; *Billot, Essic.* 3581.

R. *GLAUCA*, "*Vill. inedit. sec. Lois. Not.* p. 80," *Rapin, Bull. Haller.* p. 180.

R. *RUBRIFOLIA*, var. *PINNATIFIDA*, *Seringe in DC. Prodr.* ii. p. 610.

R. CREPINIANA, *Déség. MSS., Baker, Review*, p. 28, *Exsic.* 21-22 ;  
*Dumort. Belg.* p. 62.

R. NUDA, *Woods, Linn. Trans.* xii. p. 205 ?

R. MONTICOLA a, *Rapin, Cant. Vaud*, edit. 2, p. 94.

Prickles more slender than in the plants of the last series ; the habit, leaves, armature, and toothings like that of *lutetiana*, but the peduncles shorter and almost or quite hidden by the large clasping bracts, the flowers often deeper in colour, and sepals and fruit of the character just indicated. Leaves and calyx-tube glaucous. Bracts, stipules, and branches in exposure suffused with red. Fruit moderate or large-sized, ovate-oblong or subglobose. Sepals often (but not always) glandular on the back.

This appears to be widely diffused through the hilly tracts of the north of England. I am indebted to Dr. Rapin for a supply of Swiss specimens. Till lately the Swiss botanists always put it with *rubrifolia*, with which it closely corresponds in general aspect, but which has the sepals always simple and falling sooner, small round fruit, and longer peduncles.

Var. SUBCRISTATA, *Baker*.

R. SUBCRISTATA, *Baker, Review*, p. 29, *Exsic.* 23.

R. TOMENTOSA γ, *Woods, Linn. Trans.* xii. p. 197, *Herb.* 41.

R. CALEDONIÆ, *Borrer, MSS.* !

R. REUTERI, var. INTERMEDIA, *Gren. Jura*, p. 239.

R. COMPLICATA, *Gren. MSS. olim.*

R. STEPHANOCARPA, *Déség. et Ripart, MSS.* !

Bears just the same relation to *dumalis* that the last does to *lutetiana*. It is not unfrequent through the hilly tracts of the north of England ; and Mr. Watson gathered it in Perthshire. A plant like this, but with deep-red flowers and aciculate peduncles, by the Swale-side, near Keld.

Var. HAILSTONI, *Baker*.

R. HAILSTONI, *Baker, Report Lond. Ex. Club*, 1867, p. 7.

Prickles moderately close and numerous, the large ones thickened and falcate, but passing down rather abruptly into numerous stout straight unequal aciculi. Leaves like those of the last form, but the fruit not ripening so early, and the sepals becoming sooner disarticulated, and styles not so densely villose.

North Yorkshire, near Sutton under Whitstoncliff (*Baker*) ; and a similar form, amongst Mr. Hailstone's Roses, without locali-

zation. In the irregularity of its prickles this approaches *hibernica*, and still more closely the *R. Schultzii*, Ripart, already referred to; but the large ones are of the *canina* type, and the general habit of the plant is just that of this group.

Var. IMPLEXA (Gren.).

R. IMPLEXA, Gren. MSS. olim.

R. SOLSTITIALIS, var. DENUDATA, Gren. Jura, p. 238.

Leaves and general habit of *urbica*, with the fruit of this series.

Seen only from the neighbourhood of Richmond in Yorkshire; gathered by Mr. Jas. Ward.

Var. CORIIFOLIA (Fries).

R. CORIIFOLIA, Fries, Novit. edit. 1, p. 33 (1814), Herb. Norm. vi. no. 43; DC. Prodr. ii. p. 623; Déségl. Mon. p. 86, Easic. 23; Reut. Cat. p. 69; Baker, Review, p. 30, Easic. 24.

R. CRASSIFOLIA, Walp. Liljebl. Sv. Fl. iii. p. 268.

R. SEPIUM et SEPINCOLA, Swartz, MSS.

R. FRUTETORUM, Besser, Hort. Crem. Suppl. iii. p. 20.

R. BRACDESCENS, Woods, Linn. Trans. xii. p. 216, Herb. 90 & 91; Smith, Eng. Fl. ii. p. 391; Borrer, Brit. Fl. edit. 3, p. 242.

R. SOLSTITIALIS, Gren. Jura, p. 237, non Besser!

R. TEREBINTHINACEA, Gren. in Billot, Easic. 1480; non Besser!

R. MONTICOLA  $\delta$ , Rapin, Vaud Guide, 2nd edit. p. 195.

Combines the general habit of *dumetorum* with the fruit and sepals\* of this series. Leaflets greyish-green, and thinly hairy above, paler and softly hairy beneath; the terminal one ovate-oblong, rounded at the base; the serrations simple, blunt, open; the petiole villose, but scarcely at all glanduloso-setose. Stipules and bracts hairy on the back, but little gland-ciliated. Peduncles short, hidden by the large clasping bracts. Styles densely villose. Fruit large and generally round.

In Britain, apparently rare and confined to the hilly tracts of the northern half of the island. I have seen it from Aberdeen-

\* "Jam puer a ruricolis nostris hanc speciem distinguere didici et ultra viginti annorum quotidiana fere in natura observatione et cultura nisus a priori (*canina*) vere distinctam censeo. In agro Femsionensi, ob nisum suum species ad typum suum reducendi insigni, tres modo adsunt rosarum formæ; hæc *R. canina*, *opaca* et *R. mollissima*, easque ibidem conjungere plane impossibile est. Fruticis habitu, fructu globoso præcoci etc. ad *R. mollissimam* ibidem magis accedit quam ad *R. caninam*."—FRIES, Novit. edit. 2, p. 148.

shire (*Watson*!), Perthshire (*Hailstone*!), Berwickshire (*Johnstone*!), Northumberland (*Robertson*!), Lake, Lancashire (*Woods*!), and have gathered it myself in North Yorkshire. As long ago as 1814 Swartz identified the English with the Scandinavian plant. Dr. Moore has gathered in Derry a form with the peduncles acuminate, and Mr. Robertson the same in Upper Teesdale, on the Durham side of the river.

Var. *WATSONI*, *Baker*.

R. *WATSONI*, *Baker*, *Review*, p. 29.

R. *BRACKETSCENS*  $\beta$ , *Woods*, *Linn. Trans.* xii. p. 216, *Herb.* 92.

R. *CORIIFOLIA*, var. *BISERRATA*, *Reut. Cat.* p. 69.

R. *CINEREA*, *Rapin*, *MSS. olim.*

R. *MONTICOLA*  $\epsilon$ , *Rapin*, *Vaud Guide*, 2nd edit. p. 195.

R. *SOLSTITIALIS*, var. *GLANDULOSA*, *Gren. Jura*, p. 239.

Differs from *coriifolia* by its doubly toothed leaves, often not so hairy above; the secondary teeth gland-tipped; the stipules and bracts not so large, and densely gland-ciliated; the petiole glanduloso-setose as well as villose; stipules and bracts not so large, and nearly or quite glabrous on the back.

Inverness (*Watson*!), Perthshire (*Hailstone*!), Northumberland (*Robertson*!, *Baker*), Durham (*Robertson*!), Cumberland (*Westcombe*!), Westmoreland (*Woods*!), and a form with peduncles densely acuminate and glanduloso-setose and sepals densely glandulous on the back, gathered by Mr. Hailstone at the entrance of Glencoe from Loch Long.

Var. *CELERATA*, *Baker*, *Review*, p. 31.

Habit and leaves of *tomentella*, with the fruit and sepals of this section.

Seen only in Holywell dene, Northumberland.

Borrer's Glengoy plant, mentioned under *inodora*  $\gamma$  in the 'British Flora,' is a form like this, with the fruit turbinate and peduncles slightly setose.

Series 3. *Subrubiginosæ*. *Leaves glandular on the midrib, and slightly so on the principal veins, but not over the surface as in the true Rubiginosæ.*

Var. *BORRERI* (*Woods*).

R. *BORRERI*, *Woods*, *Linn. Trans.* xii. p. 210, *Herb.* 71-76; *Smith, Eng. Flora*, ii. p. 388; *Baker, Review*, p. 26.



R. DUMETORUM, *Eng. Bot.* t. 2579, non *Thuill.*

R. INODORA  $\alpha$ , *Borrer, Brit. Flora*, 3rd edit. p. 235, non *Fries.*

Prickles robust and strongly hooked. Leaflets flat, the terminal one 15–18 lines long, broadly rounded or even cordate at the base, the serration copiously compound, the upper surface naked, the lower hairy on the ribs, and petiole never more than faintly, and sometimes very inconspicuously glandular on the main veins and petiole, the aciculi strongly hooked. Stipules and bracts naked, or very nearly so, on the back, densely gland-ciliated. Flowers often numerous in a cluster; the peduncle weakly aciculate; the calyx-tube ovate-urceolate, generally naked. Sepals copiously compound, naked on the back, reflexed or spreading after the petals fall, disarticulated by the time that it changes colour. Styles thinly hairy.

This is a plant which has been more misunderstood than any other British form, and which occupies just that intermediate position between ordinary *canina* and three or four of the others, that varieties of the former are liable to be assigned to it by those who have only book-descriptions to guide them. The true plant is clearly in its right place in the *canina* group, and is on the whole nearer to *tomentella* than to any other variety. I have seen it from Kent, Sussex, Surrey, Middlesex, Hertfordshire, Shropshire, Worcestershire, and Yorkshire. *R. inodora*  $\beta$  of the 'British Flora' I believe belongs to *tomentosa*. Hooker's plant in the 'Flora Londinensis' is apparently *tomentella*.

Var. BAKERI (*Déséglise*).

R. BAKERI, *Déséglise, MSS.*; *Syme, E.B.* 3rd edit. t. 473; *Baker, Review*, p. 34, *Exsic.* 30.

Prickles more slender and less hooked than in the last. Leaflets obovate, full green, copiously doubly serrated, the base cuneate, entire, the upper surface naked when mature, the lower thinly hairy, plainly glandular on the midrib and main veins; the petioles pubescent and finely glanduloso-setose, with a few very slender, slightly hooked aciculi. Stipules and bracts thinly hairy, and a little glandular on the back. Flowers never more than 3–4 in a cluster. Peduncles very short, naked or weakly aciculate. Fruit naked, oblong or turbinate, ripening early in September. Sepals not so compound as in the last, densely gland-ciliated, thinly glandular on the back, ascending after the

petals fall, and not disarticulated till it has turned red. Styles villose.

North Yorkshire, hedges at Sowerby, near Thirsk.

The variety of *canina* that comes nearest to *pulverulenta*.

VAR. MARGINATA (Wallr.).

R. MARGINATA, Wallr. *Ann. Bot.* p. 68; *Tratt. Mon.* ii. no. 144; *Roth, Enum.* i. p. 455; *Reut. Cat.* p. 66.

R. TRACHYPHYLLA, *Wirtg. Essic.* 23, 23 bis, 233.

R. TRACHYPHYLLA, var. NUDA, *Gren. Jura*, p. 214.

R. BLONDEANA, *Ripart in Déség. Mon.* p. 93; *Baker, Review*, p. 34; *Déség. Essic.* 52.

R. TRACHYPHYLLA, var. BLONDEANA, *Dumort. Belg.* p. 59.

R. TOMENTOSA, var. b, *Rapin, Vaud Guide*, edit. 2, p. 192.

Prickles considerably more slender and less hooked than in ordinary *canina*. Branches dark purple and glaucous in exposure. Leaves oblong, glaucous-green above, very pale beneath, and the veins unusually prominent; the serrations copiously compound, both sides quite without hairs, the lower ones plainly glandular on the principal veins; the petiole glanduloso-setose, but not at all pubescent, with 3 or 4 slender, slightly curved aciculi. Flowers not more than 3 or 4 together. Peduncles faintly aciculate. Fruit obovate or subglobose, ripening early in September. Sepals moderately compound, thinly glandular on the back, ascending after the petals fall, becoming disarticulated by the time it has turned red. Styles moderately hairy.

North Yorkshire, hedge at Kilvington, near Thirsk; and similar plants, but with the petiole slightly hairy, gathered in Derry by Dr. Moore, in the Isle of Arran by Prof. Babington, and in Caernarvonshire by Mr. Lees and Prof. Babington, some of them with the calyx-tube aciculate as well as the peduncle. I have not seen original specimens from Wallroth; but our plant quite agrees with what I have received from Dr. Rapin as his *marginata*. The prickles are scarcely more hooked or more robust than in ordinary *tomentosa*, with which it also agrees in its fruit and sepals.

#### Group 5. SYSTYLE.

12. R. STYLOSA, *Desv.* Frutex altus, ramis elongatis arcuatis, aculeis plerisque æqualibus falcatis deorsum valde incrassatis, foliolis simpliciter serratis supra glabris infra leviter pubescentibus eglandulosis,

floribus plerisque 3-6, pedunculis modice elongatis leviter aciculatis, sepalis reflexis deciduis dorso nudis vel tenuiter glandulosis, majoribus copiose pinnatis, fructibus late ovatis nudis serotinis discis valde incrassatis instructis, stylis laxè coalitis staminibus brevioribus.

Var. SYSTYLA (*Bast.*).

*R. SYSTYLA*, *Bast. Suppl. Fl. Maine-et-Loire* (1812), p. 31; *Woods, Linn. Trans.* xii. p. 230, *Herb.* 122-127; *Smith, Eng. Flora*, ii. p. 395; *Lindl. Mon.* p. 119; *Borrer, Brit. Flora*, edit. 3, p. 243; *Billot, Essic.* 1663; *Déség. Mon.* p. 24, *Essic.* 3.

*R. COLLINA*, *Eng. Bot.* t. 1895, non *Jacq.*

A bush 8 to 12 feet high, with elongated arching branches. Prickles uniform, scattered, the base deltoid, with shorter and less-hooked points than in *canina*, the main ones  $\frac{3}{8}$  inch long and the scar as deep. Stipules naked, or nearly so, on the back, finely gland-ciliated. Leaves of the barren shoot  $3\frac{1}{2}$ -4 inches long, with 7 leaflets, the terminal one 15-18 lines long by two-thirds as broad, oblong, pointed, rounded at the base, the upper surface naked, the lower thinly hairy, principally on the ribs, not at all glandular; the serration quite simple, moderately acute; the petiole thinly hairy, not setose, with 2-3 slender uniform curved aciculi. Flowers generally 3-6 in a cluster; the peduncles often an inch or more long, thinly clothed with weak aciculi and setæ. Calyx-tube ovate-urceolate, naked or slightly setose at the very base. Sepals  $\frac{1}{2}$ - $\frac{5}{8}$  inch long, naked or a little glandular on the back, the main ones lengthened out at the point and copiously pinnate. Corolla pale pink or rarely white, 15-18 lines across when fully expanded. Fruit broad ovate-urceolate, or subglobose,  $\frac{1}{2}$ - $\frac{5}{8}$  inch long by  $\frac{3}{8}$ - $\frac{1}{2}$  inch broad, not ripening till October, the sepals falling before it changes colour. Column of styles glabrous, generally protruded 1-1 $\frac{1}{2}$  line beyond the very prominent disk.

This is easy to recognize from *R. canina* in the typical form, but is quite connected with it by intermediate gradations. I have seen a form in which the column of the styles was protruded in the central flowers of a cluster, but not in the outer ones, and other specimens with the styles not at all protruded, for the rest quite doubtful between this and *collina*. Our ordinary English plant, as just described, is exactly the *systyla* of Déséglise; but *stylosa* and *leucochroa* are mere varieties of the same plant, and both names have a slight priority over *systyla*. I have seen this variety from Kent, Sussex, the Isle of Wight,

Middlesex, Hertfordshire, Gloucestershire, Somersetshire, and Devonshire. On the Continent I have seen specimens of the species only from France and Switzerland; but it is said also to inhabit Belgium and Styria.

**Var. DESVAUXII, Baker.**

*R. STYLOSA*, *Desv. Journ. Bot.* (1810), p. 316; *Déség. Mon.* p. 26, *Herb. Ros.* 40; *Billot, Exsic.* 1483! *Gren. Jura*, p. 240; *Dumort. Belg.* p. 64.

Column of styles protruded as in the last, from which it only differs by its pure-white flowers, leaves thinly hairy all over beneath, and more hairy petioles.

A plant coinciding with the specimens in Déséglise's fasciculus gathered by Mr. Borrer at Hartwell, in Sussex.

**Var. OPACA, Baker.**

Leaves dull grey-green above, and still more hairy beneath than in the last, quite three-quarters as broad as long, and rounded at the base. The peduncle shorter and quite naked, the flower pure white, and not much over an inch across, scarcely more than the head of stigmas protruded.

Kent, between Chilgrove and Brooms (*Rev. G. E. Smith!*).

Differs mainly from specimens of *R. fastigiata*, Bast. Suppl. Fl. Maine-et-Loire, p. 30, received from Déséglise, by its pure-white flowers.

**Var. GALLICOIDES, Baker.**

General habit and leaves in shape like those of *systyla*, but the prickles of the branches copiously intermixed with aciculi and glandular setæ; the leaves only very faintly hairy beneath and on the petiole, but the latter copiously glanduloso-setose, and a few glands extending to the midrib; the central serratures with one or two accessory gland-tipped teeth. The peduncles densely clothed with fine subequal glandular setæ, which extend more or less to the calyx-tube, sometimes covering it all over, the latter narrower and longer than in the type. The sepals glandular on the back, and densely gland-ciliated; the column of styles equalling the stamens; the corolla pure white; the fruit obovoid, naked,  $\frac{3}{8}$  inch long by  $\frac{3}{8}$  inch broad.

Warwickshire, Chesterton Wood, near Myton (*H. Bromwich!*). A very remarkable variety; and I have nothing from the Continent resembling it. In armature it recalls the *Gallicanæ*,

only that it is more densely aciculate and setigerous than any of the plants of that section I have seen.

Var. *MONSONIÆ*, *Lindl. Mon.* p. 112; *Smith, Eng. Fl.* ii. p. 396.

R. *COLLINA MONSONIANA*, *Redouté*, 4to edit. t. 58.

A low erect bush with short ascending branches, with a few glandular setæ and aciculi mixed amongst the prickles. Leaflets in shape and serration just like those of the type, greyish-green, naked above, thinly hairy beneath. Peduncles and sepals of the type, but the petals of a "beautiful glowing red" and larger than in any British Rose; only the head of the stigmas protruded beyond the disk; the styles thinly hairy; the fruit roundish and orange-red, like that of *gallica* in size and shape.

A single bush found by Miss Monro in a hedge near Watford in Hertfordshire, and transferred to the garden of Lady Monson, from which it was spread in cultivation. Mr. Borrer suggests that it is a hybrid with one of the *Gallicanæ*.

13. R. *ARVENSIS*, *Huds.* Frutex humilis, ramis flagelliformibus elongatis, aculeis æqualibus falcatis deorsum valde incrassatis, foliolis simpliciter serratis utrinque omnino nudis infra glaucescentibus, floribus plerisque 1-6, pedunculis elongatis glandulosis, sepalis latis brevibus deciduis dorso nudis majoribus paullulum pinnatis, fructibus globosis vel late ovoideis parvis nudis serotinis discis valde incrassatis instructis, stylis coalitis stamina æquantibus.

R. *ARVENSIS*, *Huds. Fl. Angl.* edit. 1, p. 192 (1762); *Linn. Mant.* ii. p. 245; *Smith, Eng. Flora*, ii. p. 397; *Woods, Linn. Trans.* xii. p. 232, *Herb.* 128-132; *Déség. Mon.* p. 21; *Dumort. Belg.* p. 64; *Gren. Jura*, p. 239; *Reut. Cat.* p. 73.

R. *SYLVESTRIS ALTERA MINOR*, *FLORE ALBO*, *NOSTRAS*, *Ray*, edit. 2, p. 220 (1689); *Buddle, Herb.* !

R. *REPENS*, *Scop. Fl. Carn.* i. p. 355; *Gmel. Bad.* ii. p. 418; *Reich. Exsic.* 1752; *Déség. Mon.* p. 22, *Exsic.* 2.

Bush not more than 2 or 3 feet high when not supported, with long trailing shoots, which are purple and glaucous in exposure. Prickles scattered, uniform, strongly hooked, the lower part subdeltoid, about 4 lines long, and the scar quite as deep. Stipules naked and only faintly gland-ciliated. Leaves of the barren shoot 2½-3 inches long, with 7 leaflets, the terminal one broad-oblong or broad-obovate, 9-12 lines long by three-quarters as broad; the base broadly rounded; the serratures quite simple, blunter, and not so deep as those of ordinary *canina*; both sides

quite naked, the upper deep green, the lower subglaucous; the petiole not at all or only very faintly hairy and setose, with 3-4 slender uncinatè aciculi. Flowers 4-6 if the branch is at all robust; the peduncles often an inch or more long, close together, purple in exposure, more or less densely clothed with nearly or quite sessile glands. Calyx-tube turbinate, purple and glaucous, usually naked, rarely a little glandular. Corolla 15-18 lines across when expanded, pure white, with a yellow throat. Sepals naked on the back, broad-bladed, not more than  $\frac{1}{2}$  an inch long, hardly at all leaf-pointed, and the main ones with only 1-2 pairs of minute setaceous pinnæ low down, reflexed after the petals fall, deciduous. Fruit subglobose, naked, measuring about half an inch long and thick, not turning red till October, with a thick prominent disk. Styles always firmly united in a glabrous column which equals the stamens.

This is much more common in the southern than the northern half of England; and though it reaches Kincardineshire, it is a very rare plant north of the Tweed. On the Continent it does not reach northward to Scandinavia; but from Belgium and France it is common eastward through Central Europe, extending to Sicily, Macedonia, and the Ural Mountains. Our ordinary plant is the *repens* of Déséglise; his *arvensis* is a weak form, with the peduncle naked and flowers usually solitary.

Var. BIBRACTEATA (*Bastard*).

R. BIBRACTEATA, *Bast. in DC. Fl. Franç. v. p. 537; Tratt. Mon. ii. p. 96; Déség. Mon. p. 18.*

R. ARVENSIS, var. BIBRACTEATA, *Seringe in DC. Prodr. ii. p. 597; Dumort. Belg. p. 65.*

R. RUSTICANA, *Déség. Billotia, p. 34, Herb. Ros. 1.*

Shoots stronger and more assurgent than in the type; leaflets 15-18 lines long by two-thirds as broad, more pointed than in the type, and more sharply toothed; the calyx-tube and fruit ob-ovoid; the sepals a little more compound; the peduncles rather more spreading than in the type, thinly glandular; the petals often an inch deep; the fruit  $\frac{1}{2}$ - $\frac{3}{4}$  inch long by  $\frac{1}{2}$  inch broad.

Seen from Sussex (*Borrer*!), Devonshire (*Briggs*!), Cambridgeshire (*Babington*!), Essex (*Varenne*!), and Northumberland (*Richardson*!). Liable to be called *systyla* by those who know ordinary *arvensis* and not the other species.

From the preceding list *rubella* and *pomifera* require to be

deducted as doubtful natives. In addition a few other species have been gathered as strays from garden cultivation. *R. cinnamomea*, L., found by Mr. Sabine long ago near Pontefract, is frequent in gardens, and widely dispersed as a native plant in continental Europe. *R. lucida*, Ehrh., found by Mr. Borrer near Keswick (Phyt. ii. p. 437), and by Mr. Reeves near Tunbridge Wells, is a common North-American rose, also frequent in gardens. The same plant has been gathered in a subspontaneous state in France and Germany, and is *R. baltica*, Roth (Enum. ii. p. 464; Koch, Syn. p. 444). The subspontaneous Yorkshire and Sussex Roses, mentioned by Mr. Borrer in the 'British Flora,' 3rd edit. p. 245, do not appear to be essentially different from *R. provincialis*, Ait.; and the *R. arvensis*, var. *Andersoni*, mentioned by Smith, 'Eng. Flora,' ii. p. 398, I believe to be *R. austriaca*, Crantz. The two latter are both members of the *Gallicanae* group.







